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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

. 90, No. 8 AUGUST, 1937 Member A.B.C.–A.B.P.

Firemen of Charlestown, Mass., Opening Up Bales of Cotton Which Caught on Fire on the Charlestown Bridge When Bales, Piled High on the Truck, Came in Contact with an Overhead Trolley Wire

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A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

ROBERT H. LOCKWOOD, Associate Editor
FRED SHEPPERD, Editor
N. N. WOLPERT, Assistant Editor

Greater Strength

IN CELEBRATING our sixtieth anniversary this year, we have a happy feeling in the fact that FIRE ENGINEERING today is in stronger position and serving the fire field better than ever before in its long and interesting history.

● For example, our circulation has increased more than 35% in the past three years and is continuing steadily to climb. The advertising, which speaks for itself, is going ahead very nicely, too. And, above all, we think our editorial staff is doing its stuff in grander shape than ever before, which, of course, is the all-important factor.

● Unless fires stop burning or the world comes to an end, nothing is going to keep us from forging ahead to even greater achievement.

The Publishers

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THIRTY TO FIFTY GALLONS A MINUTE

THIRTY to fifty gallons of water per minute from every open sprinkler head . . . means protection while the fire burns . . . *destruction* after the fire is out. Which leads to the very important question: WHO WILL TURN OFF THE WATER when the sprinkler has done its job?

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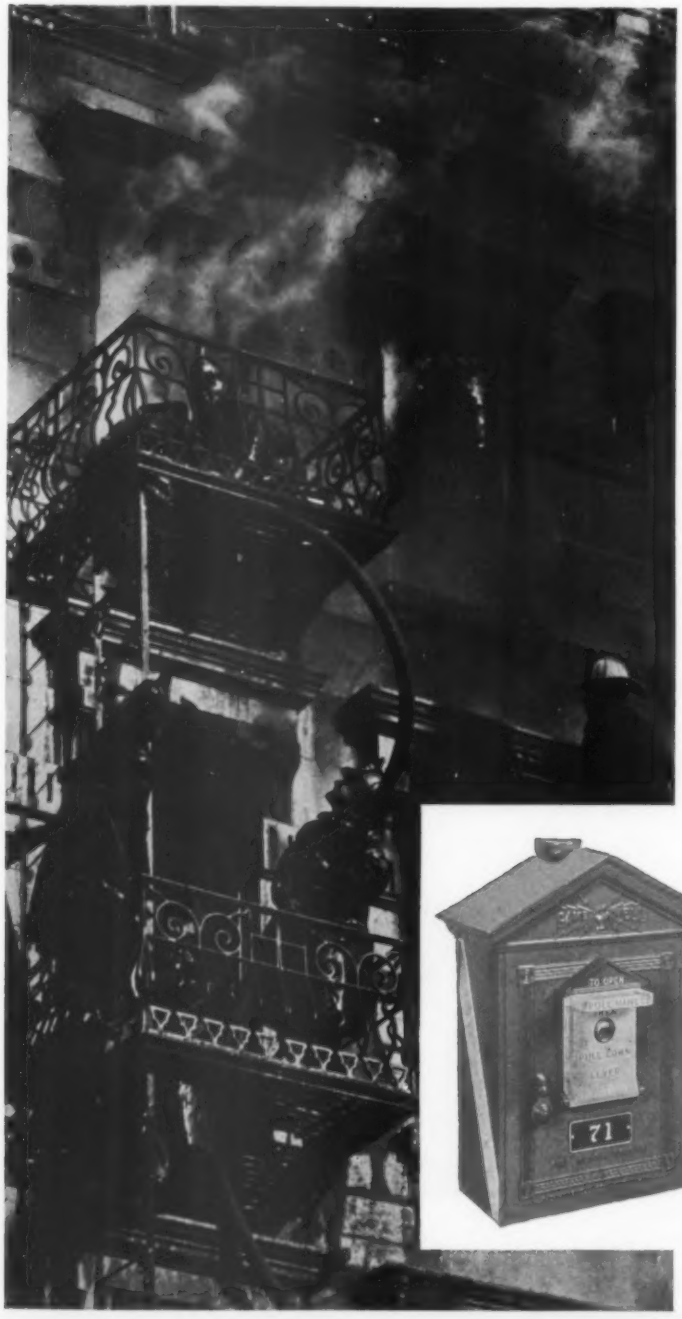
A.D.T

A NATION-WIDE PROTECTION SERVICE AGAINST FIRE, BURGLARY AND HOLDUP

LIFE HAZARDS!



The Alarm Came In Five Minutes *Too Late!*

The pitiful fact is that nearly two-thirds of the ***life loss by fire occurs in the homes!*** And the large majority of these deaths is due to ***delayed alarms.*** The absence of sufficient dependable fire alarm boxes definitely places the responsibility upon the community and —the officials!

Prevent further fire casualties. Protect the community's life and property with adequate fire alarm box distribution. Urge the extension of the municipal fire alarm system to the interiors of properties in which the life hazard exists.

Surveys, Plans and Estimates gladly furnished without cost or obligation.

The Three-Fold Fire Alarm Box

Not more than 500 feet to the nearest box in closely built residential districts; convenient to every group of buildings, manufacturing establishments, and institutions in sparsely built districts; in congested high value districts—"A Box a Block"—with special attention to Life Hazards, is a safe rule to follow.

"There is practically no city where there are enough fire alarm boxes."

Chamber of Commerce of the United States

THE GAMEWELL CO.

NEWTON UPPER FALLS MASSACHUSETTS

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 90 AUGUST, 1937 No. 8

With the Editor

Smaller Fireboats There is growing interest today in smaller fireboats, even on the part of some of the larger cities. The arguments advanced for the smaller units are quite convincing.

In the first place, they cost much less. More of them can be employed for the same initial investment and they can thus be located as to reach a waterfront fire in shorter time than can a single big boat. Having shallower draft, they may enter waters barred to the bigger craft.

So far as pumping capacity is concerned, if the fire is not a large one, they are as effective in extinguishing it as the larger boat. Should the fire be of great size, there would be time to assemble the various small fireboats, which would give a combined discharge equalling, or even exceeding, that of the larger one. Furthermore, the small units could be better deployed and thus eliminate a lot of heavy hose handling.

The development and perfection of a small fireboat will make available to many cities, located on rivers and shallow lakes, effective waterfront fire protection not now enjoyed.

It is not surprising, therefore, to hear that one diesel engine builder is already working on designs for such a boat.

Plan Now For the Chiefs' Conference On October 19 to 22, inclusive, the International Association of Fire Chiefs will hold its sixty-fifth annual conference at Oklahoma City, Okla.

Needless to say, a most outstanding technical program has been arranged. Manufacturers of fire apparatus and equipment are already planning a display of their products that will constitute a highly educational feature of the convention.

The local committee at Oklahoma City is losing no time in working up an entertainment program. Chief George Goff has been host to a number of fire service conventions in his part of the country and he can be counted upon to do an outstanding job.

Then there are many highly interesting things to see in that Southwestern city, not the least of which is the huge oil field, with producing wells right in the shadow of the state capitol.

So make your plans now to be on hand on October 19. You'll learn why the leading Fire Chiefs throughout the country attend the annual conferences year after year!

Fred Sheppard

Preventing Tragedies in Public Institutions

There is today a growing appreciation of the importance of making public institutions safe from fire. But a great distance remains to be traveled before all such establishments will have attained that degree of safety which is necessary to safeguard properly the lives of inmates therein.

In this article, which was originally prepared by the Western Actuarial Bureau and which has recently been revised by the Insurance Department of the U. S. Chamber of Commerce, are set forth suggestions for improving the fire protection of public institutions and safeguarding the inmates therein.

STATISTICS show that there are fires in five schools, five churches and one hospital every day, which, when coupled with those in hotels, theatres and other classes of buildings frequented by the public, result in losses of startling proportions.

Loss of life is the greatest toll exacted for carelessness and it is in public buildings that many of our great disasters occur. Such calamities usually command nation-wide attention for a day, but for the most part public institution fires are quickly forgotten. The seriousness of neglecting buildings of this character is furthere emphasized, however, by the fact that it is estimated that more than 10 per cent of the nation's annual property fire waste is the result of fires in public institutions.

It is a fair estimate that during an average of four hours each day for 200 days in the year there are 26,000,000 children housed in the public schools of the United States. No fundamental educational problem is greater than the safety of these children. For the majority of these children attendance at school is compulsory by law. The significance of this situation was forcibly expressed by the Industrial Commission of one state in the following language:

"There are only two classes of buildings where attendance is involuntary—schools and jails. If the house or flat in which you live is a fire-trap, you are at liberty to move out. If you believe that a certain hotel or theatre is unsafe, you need not patronize it. But if your school is in daily danger of becoming a fiery furnace—the law compels your children to attend just the same."

It is also estimated that there are more than 1,500,000 sick, aged, blind, crippled, insane, orphaned and otherwise unfortunate or defective persons in more than 10,000 institutions of the United States. They remain in these buildings every day of the year and consequently their personal safety is dependent to a considerable degree upon the steps taken to make the structures safe for occupancy.

Hazards

There are a number of common hazards which may cause fire or contribute toward its spread. The chief causes of fire in public buildings, practically all of which are preventable or partially preventable, follow:

Defective installation of heating and ventilating apparatus, including piping; defective chimneys and stove pipes passing through combustible partitions, walls and roofs.
Poor housekeeping, rubbish, ashes, etc.
Smoking and improper use of matches.
Lack of protection against outside exposure.
Improper installation and use of gas appliances.
Hot ashes and coals and open fires.
Defective electrical installations.
Lack of lightning protection.

Hazards contributing toward the spread of fire are:

Unprotected floor openings.
Lack of fire stopping.
Large undivided areas.
Excessive heights.
Combustible roof coverings.
Skylights and ventilators which permit entrance of sparks.
Cracked and bulged walls or walls of inferior construction.
Ceilings, walls and partitions sheaved with flimsy materials.
Poor foundation or lack of foundation.

Because of the large number of people often occupying public buildings, additional hazards contributing to panic in the event of fire may be found in these structures. Among these are:

Insufficient number of exit doors.
Lack of horizontal exits to protected adjoining spaces.
Exits adjacent to open shafts and otherwise improperly arranged.
Exit doors not equipped with panic bars or opening inward.
Locked and obstructed exit doors.
Fire escapes which are not erected according to acceptable standards.
Steep, narrow and dark stairways including those with many turns and obstructed landings.
Narrow and obstructed halls.
Absence of guard rails on stairways.
Loose, worn-out and improperly spaced stairway treads, or flooring of slippery material.
Improperly designated exit doors.
Improperly illuminated passageways.
Improperly installed air conditioning systems.

Corrective Safety Measures

Too often public building disasters are caused by hazards arising from carelessness and indifference. Pending the time when funds are made available for fundamental structural and protective improvements, which are essential in many institutions before reasonably safe occupancy is assured, certain corrective safety measures are advocated. One of the fundamental principles of fire prevention is cleanliness, yet in many instances serious fires have started or spread because of accumulations of rubbish, scrap paper, and other combustible material in basements, attics and other out of the way places. A school fire in which 21 lives were lost is an example of the serious consequences which may arise from such conditions.

Fires seldom start in clean places and it is obvious that strict orders should be issued to janitors and cleaners of public buildings that all combustible waste material be collected and removed daily. If scrap paper is baled, it is advisable that the bales be stored outside the main building. Periodic inspections by qualified men will do much to eliminate easily recognized hazards.

If fires do start they may be localized by providing the following:

Standard inclosed stairways and elevator shafts to cut off each floor.
Adequate fire stopping at all stud partitions and furring at all floor and ceiling lines.
Automatic sprinkler systems generally throughout public institutions constructed of nonfire resistive materials and in all danger points in buildings of fire resistive construction, such as kitchens, laundries, trunk rooms, X-

ray film storage rooms, basements and attics of hospitals and in basements around heating apparatus in schools and churches.
Automatic alarm systems.
Fire walls with standard fire doors to cut off large horizontal floor areas.
Fire curtains in proscenium walls of theatre and auditorium stages.
Ventilators of incombustible construction and protected so sparks and brands cannot fall into the building.
Fire resistive bins, pits, vaults and rooms for storage of volatile, inflammable and otherwise dangerous materials.

Protective Facilities

It is of primary importance that an ample water supply be provided in the vicinity of public buildings. Unless a large quantity of water is available the Fire Department may be unable to control a fire which has gained some headway. The Fire Prevention Committee of a Chamber of Commerce in a middle western city made a test to determine the adequacy of the public water supply near a large school and found that very little water could be obtained. The City Council immediately ordered the installation of a large main leading directly to the school.

Many fires in public buildings can be controlled in their incipient stage before the arrival of the Fire Department if private protective equipment has been installed.

Automatic Sprinklers: The installation of automatic sprinklers is an effective safeguard for public institutions. Their advantage lies in the fact that heat from a fire causes a spray of water to be released directly over the blaze, thus quenching the fire before it develops into serious proportions. An automatic sprinkler system may be installed so that an alarm of fire is transmitted to fire department headquarters simultaneously with the operation of the sprinklers. Based upon past experience, the possibility of loss of life is remote in buildings equipped with sprinklers.

It is particularly feasible to provide sprinklers throughout all buildings or rooms used for industrial work, throughout all attics, lofts, basements and stairways of combustible construction, in all kitchens, store closets, broom closets and the tops of chutes or dumb waiters. They are advisable in all day rooms, halls and corridors of hospitals other than those for persons suffering from mental diseases. In the latter institutions there is a possibility that sprinkler heads might be broken or garments might be attached to exposed pipes by persons with homicidal intent.

Standpipes and Hose: Inside hose protection is advantageous in fire extinguishment in that it affords a direct contact against the blaze. For a standpipe system to function most efficiently, it is important that the hose be kept connected to the standpipe, the normal water pressure be sufficient to reach all parts of the building, the hose examined regularly and defective lengths and nozzles replaced, and the hose hung properly on brackets or reels. When a fire has gained such headway that the use of hose is necessary, first consideration should be given to the removal of occupants. Fighting the fire is then of secondary consideration.

First Aid Appliances: Various types of hand extinguishers are effective in putting out fires in an incipient stage. Soda and acid extinguishers or water pump cans are of value in fighting ordinary blazes. For electrical and small gasoline or oil fires, carbon tetrachloride or carbon dioxide extinguishers are suggested. Extinguishers of the foam type are well adapted for oil fires.

Measures to prevent freezing should be employed when soda-acid or foam extinguishers or water pump cans are exposed to low temperatures. Extinguishers should be placed in conspicuous locations and kept free from all obstructions. In no case should they be hung more than five feet from the floor. In institutions where women and children are likely to use them, it is better that they be hung three feet from the floor and extinguishers of 1½ gallons capacity be installed because larger ones may be too heavy for such persons to handle.

Employees and attendants should be thoroughly drilled in the use of these appliances.

Safety of Occupants

The saving of human life is of paramount importance in structures of this character. The following paragraphs are presented in the thought that local fire prevention committees may wish to make special studies of the methods adopted in their public buildings to prevent loss of life in event of fire.

Rescuing Patients From a Burning Hospital
In this fire two hundred patients were carried safely down ladders, elevators and fire escapes by the firemen within twenty minutes after the blaze broke out in the upper floor of the hospital.

Fire Drills: Fire drills are extremely important in all public institutions, but in some instances it is impracticable to organize them. It is impossible to formulate rules for conducting fire drills which may be applied to every building because they are dependent upon the size and construction of the building, the number and location of exits and the number and type of occupants. The assistance of the local Fire Chief, State Fire Marshal or some other expert whose services are available would be of value in organizing properly a fire drill system for each public institution of the community. Further refer-

ences will be made to fire drills in this article.

Fire Alarms: Every public institution, except perhaps the small one-story structure, should be provided with a fire alarm system. If possible, arrangement should be made so that the pulling of a fire alarm box installed in the building will send an immediate alarm to the Fire Department. In larger institutions it is advisable to distribute alarm boxes throughout the property. For a fire drill, the city alarm connection can be cut out. The size and occupancy of the building will determine its fire alarm requirements. Reference to available literature on the subject and the use of advice and experience of experts is suggested. Complete instructions should be issued concerning procedure when fire is discovered, so that no time will be lost in sending in an alarm to the Fire Department Headquarters.

Preparatory School for Boys Destroyed

The view shows the fire at its height, taken from the rear of the building. The school was entirely destroyed.

Egress Facilities: Proper means of egress vary with the occupancy and construction of the building. For example, ample exits for a building equipped with automatic sprinklers may be entirely inadequate in another of similar occupancy without fire protective equipment. Schools, hospitals, hotels, theatres and churches all present different egress problems, the two most closely allied being theatres and churches. Doorways, stairways, windows and hallways deserve particular attention. At least two independent means of egress should be accessible from every portion of the building. Standard exit signs, illuminated at night, should be placed over all stairways and doors leading directly to the outside. Current for electric exit lights should be independent of the general lighting and power circuits.

Fire escapes sometime contribute to peril rather than offer a means of egress. Smoke-proof towers are one of the safest forms of exits. They are built-in stairways with fire resistive walls and doors which cut them off from the rest of the building and can be used for daily service as well as emergency exits. They should not be located at points where a fire in a neighboring building would interfere with egress. The exit doors should be kept free of snow, ice or other obstruction.

It is generally true that if proper protective features and egress facilities are provided inside a building there will be no need for outside fire escapes. If the latter are to be erected, competent fire protection engineers should be consulted. There should be direct access to such escapes in order that no delays may be experienced in reaching them. They should lead to the ground and should be located opposite blank walls or wired glass windows in metal frames. Stairs should be wide and have an easy pitch and adequate hand rails should be provided. Under these conditions they form a fairly safe means of exit.

Another type of exit now being used in some school and hospital buildings is the inclined tubular fire escape in which the occupants slide to the ground. It permits direct and rapid exit from the interior of the building. Care should be taken that the tube remains unobstructed at all times. Where there are exit doors on slides or chutes it is imperative that they be kept in perfect working order.

Horizontal exits through fire resistive partitions to protected rooms or spaces on the same level in adjoining or connected structures are a valuable type of emergency exit. They form areas of safety and permit transfer of occupants from sections involved without taking them outside, a dangerous practice in the case of hospitals, especially during winter months.

Fire Brigades: Fire brigades and safety corps may be formed among the students in schools and employees in other public institutions. If thoroughly drilled in the principles of fire prevention, fire fighting and rescue work, these groups can be of much assistance in time of fire. It may be advisable to have separate divisions for fire fighting and the removal of occupants. In this connection it may be stated that every executive and employee of public institutions should know common fire hazards and their correctives, the use and operation of fire extinguishers and the proper method of turning in a fire alarm. Especially to nurses and teachers are these subjects important and their study may well be made a regular part of their training course.

Blankets: In kitchens, laboratories, laundries and other places in public buildings where clothing on a person may possibly be ignited, blankets of woolen material should be provided for use in smothering the flames. If everyone who frequents these rooms is acquainted with the location of the blankets, the possibility of death or serious injury in this manner would be minimized.

Special Features

Schools: The organization of fire drills should receive careful study and thought. It is advisable that a system be worked out for each building by one who is an authority on the subject. Fire brigades or fire marshals or monitors may be appointed from among the older pupils. It is their duty to supervise the removal of crippled children and those of the lower grades. Care must be taken to march the children away from the building in order to avoid injury to themselves and the hampering of firemen in rescue work and in fighting the fire. If the teachers possess an

emergency roll-book, they will be able to make an immediate check of the pupils. Many lives have been saved by this practice. Danger signals or a sign reading "Stop—Fire Drill" should be carried by monitors to the streets during each fire drill.

Some teachers may refuse to take fire drills seriously and not leave the building. If this difficulty is not corrected, it may properly be just cause for dismissal. Teachers cannot judge whether an alarm means a drill or a fire. Fire drills should be conducted without previous announcement either to the teachers or pupils, the only exception being the first drill of the school year.

Unsafe Classrooms

Basement classrooms, unless provided with direct outside exits, are dangerous and their continued use is inadvisable. Likewise it is unsafe to have class rooms above the second floor of school buildings of non-fire resistive construction and not equipped with automatic sprinklers and other protective appliances.

It is recommended that exit doors and class room doors open outwardly and that during school hours they be kept unlocked and free from obstructions. Horizontal exits can be applied to some schools as outlined in a following paragraph captioned "Hospitals and Asylums." If desks in classrooms and auditorium seats are firmly secured to the floor, the possibility of congestion and panic will be decreased. Supervision of all laboratory and manual training work by experienced instructors is advisable in order to prevent injury and minimize danger of fire.

Hospitals and Asylums: Horizontal egress is a most practical arrangement for hospitals. Patients may be removed horizontally through fire walls and fire resistive corridors or across open bridges to areas or separate structures cut off from the burning building. Doors should open outwardly and be of sufficient width to permit beds to be removed through them easily. Bed ridden, old and decrepit patients should be quartered in the first story.

Organization of fire drills and safety corps is important in all hospitals and asylums and in this the experience of experts should be applied. Fire fighting brigades may be formed from assistants, firemen, engineers, porters, janitors, mechanics, kitchen and yard men. They should be properly captained and drilled in assisting in the removal of patients and in the elements of fire fighting.

In institutions where it is necessary to keep inmates locked in rooms with barred windows, it is suggested that the number of locks be reduced to a minimum and master keys be widely distributed with their location made known to a number of employees. In this connection it should be made certain that the Fire Department is equipped with bar cutting apparatus. This emphasizes the importance of nurses and attendants being constantly at their posts of duty and the need of a supervisory signalling system for this purpose.

During recent years X-ray photograph has become an important phase of hospital work. The so-called safety films, having cellulose acetate as a base, should by all means be used; in some states they are required by law. If nitro-cellulose films, which are highly flammable, are used, special storage and handling practices must be observed.

Films in Metal Containers

A safe practice is to keep unexposed films in metal boxes or cans on shelves raised from the floor or in double walled cabinets vented to the outside air. It is suggested that exposed films be stored in vented cabinets or vented storage rooms of fire resistive construction. Smoking should be prohibited in such locations and electric lights in storage rooms should be protected with wire guards and explosion-proof globes. The use of portable lights on extension cords would be hazardous in the presence of flammable films.

Extensive use of volatile and flammable liquids, open flames, cotton and cotton gauze, and flannellette is common in hospitals and care should be used in handling and storing them. Only explosion-proof globes should be used in operating rooms and at other points where there is danger of contact with explosive fumes.

Churches: Many church fires occur from sudden heating in an attempt to warm the building sufficiently for Sunday services following a cold week. Precautions should be taken to prevent flowing robes and decorations from coming in contact with open flames. Candles should be securely placed in holders which will not fall, and care should be taken in the use of incense burners. Lack of proper exits is common, and egress is often hampered by the installation of pews which partially cut off the exit facilities. The standards usually prescribed by law for theatres, such as requirements for width of exits in proportion to seating capacity, may well apply to churches and their auxiliary buildings with very little alteration.

Auburn Prison, When Convicts Set the Buildings on Fire

General view of the prison, with firemen on the walls and in the quadrangle, fighting the flames. Convicts can be seen huddled in small groups in the enclosure.

Do We Expect Too Much of Our Fire Apparatus?

Specifications Should be Framed so as to Provide Apparatus Capable of Performing Efficiently Service Required

By CHIEF ROSS B. DAVIS,
Fire Department, Philadelphia, Pa.

I HAVE been asked to supply the answer to the question, "Are We Expecting Too Much of Our Fire Apparatus?" I do not feel that I could justly qualify my answer, unless I paused for a minute to look back over the years and presented to you the picture of fire fighting of another day; a basis, if you please, for comparisons.

Practical men though we may be, perhaps it is with some regret that the older ones of us recall those glamorous days of fire fighting; days that might well be called the "gay nineties" of the fire game.

Stop for a minute to picture the apparatus of that day responding to an alarm:

Steam Pumper an Inspiring Sight

The steam pumper, a sight to thrill even the most unimaginative soul. Two or three plunging, snorting horses, with reins drawn tight by the driver as he leaned far forward from his seat and seemed perilously near to being catapulted into the street. And then the steamer itself. Sparks shooting out of its tall stack and embers from its fire box, leaving a jeweled trail behind as it rolled down the street.

Arrived at the scene of the fire the steamer was always the center of a fascinated group of spectators who stood in awed wonderment to watch the engineer and fireman operating that thumping, puffing symbol of fire fighting.

That steamer in action typified all the glamor and romance of the fire fighting game of that day. And it was something more than a thrilling spectacle to draw desirable attention to the business of fire fighting. That steamer radiated an air of confidence to the firemen. Its mighty thundering crescendo rising above the tumult of the fire grounds to reach the ears of the man on the business end of the pipe, assured him of the maximum supply of that vital flow of water on which his life might depend, which was certainly necessary if he was to win in the hazardous combat in which he was engaged.

Chief Ross B. Davis

The Gasoline Pumper Appears

Then suddenly that tried and trusted piece of mechanism disappeared. In its place was found a silent, uninspiring collection of automatic valves and controls. You might call it the beginning of the stream-line days of the fire-fighting service.

Is it any wonder that some of the older of us in the fire-fighting game looked with some skepticism on this new contrivance? In its introduction this new pumper was subjected to a most severe test. It must make up in practical operation, in water delivery power and long term duty what it lacked in glamor and the properties for romantic inspiration. To be accepted and adopted by the old line firemen, this new pumper had to deliver.

Horses Relegated to Retirement

Warning of this forthcoming change was given in the early nineteen hundreds when the tractor was introduced to draw the steamer. More than a few tears were shed, as beloved horses were relegated to retirement farms and ceased any longer to thrill the spirited, hungry fire fan. This change marked the dawn of the new era in the fire fighting game.

Soon after, came the early designs of the present-day gasoline pumper. Frankly, I must say I was one of that group of conservative firemen who felt, as tests of the new apparatus were undertaken, that it could never begin to do the work of the older steamer.

But there was no delaying the engineering progress of the builders of the day. Increasing numbers of these new pumpers were being added to the equipment of the big city fire bureaus, and skeptical though some of us may have continued, we were forced to admit in practical tests that this new mechanical model performed very well.

Simplicity of Gasoline Apparatus Appeals to Skeptic

As Deputy Chief of our Bureau at the time, it was a part of my duties to test all apparatus offered for purchase. It was necessary for me to study the possibilities of this new type of fire apparatus.

Thoroughly familiar with the operations of the old steamer, there was one thing about this new pumper that first appealed to me. That was, that with a relief valve set at a certain pressure, the throttle regulated, the water circulation checked, with oil feeds and fuel supply in order, little remained to engage the operator of the pump. It was simple in comparison with the multitude of detail that fell to the lot of the engineer of the old steamer.

One of the important and distinguished features of the pumper was that it delivered an even flow of water in comparison with the fluctuating pressures of the old steamer.

Yet doubt as to the long time dependability of the new type pumper

continued to exist in the minds of many of us. Could it maintain its efficient delivery over years of service, was the question most often advanced by the old line fire fighters. It was all an unfounded lack of confidence.

Efficiency of Apparatus Steadily Increases

There was no stopping the progress of engineering skill and ingenuity of the men interested. Leading fire apparatus builders, determined to provide a pumper that would rise sufficient to whatever demand was placed upon it, employed specialists who continuously introduced new improvements to increase the efficiency and capacity of their pumpers, as for instance they offered increased horse power by adding to the cylinders of their pumping engines. This progression in engineering design has never stopped.

Today these mechanical giants have advanced in the efficient performance of their requirements, extending the functions and power of the pumping engine until the thinking chief, as he pauses to consider, cannot help but wonder how he ever got along without them.

Not Expecting Too Much of Apparatus

Now as to this question, "Are We Expecting Too Much of Our Fire Apparatus?" my answer is "no." That is my answer, provided I have an intelligent estimation of just what I should expect. The answer can be "no" only if, in writing our specifications for that apparatus, we frame them in such fashion as to insure delivery of a piece of mechanism capable of performing the service required. Specifications should insure sufficient horse power in the engine and ample capacity in the pump, remembering that sound judgment requires at least a 20 per cent factor of safety in horse power while delivering the peak load.

Reputation of Builder Important

There is another important element in this business of buying fire apparatus—the reputation of the apparatus builder. Is he an old and trusted builder who will guarantee his product and then give evidence of ability to stand behind this guarantee over a period of many years?

As far as I am concerned I should hate to see builders of fire apparatus make any drastic reduction in the purchase price of their machines, that would necessitate the introduction of inferior workmanship and materials.

I insist we cannot be too particular in our selection of the company to supply us with our fire apparatus. With virtually every municipality in the country in straitened financial circumstances and introducing economies in every department and bureau, when an item like fire apparatus is purchased, the responsible persons must plan on that machine being in use for many years. In that long period of service he is going to need replacement parts. Therefore he must consider from the past, is this apparatus builder going to continue in business and be prepared to supply the needs as they arise?

Accepting Lowest Bid Not Always Safe Rule

Accepting the lowest bid is far from a safe rule to follow in the purchase of fire apparatus. It costs big money to build efficient and dependable fire-fighting equipment. The leading builders maintain large engineering forces set up for experimenting in the developing of equipment. This type of builder is rendering a real service to the fire-fighting profession. He is doing something that might well be the responsibility of the Fire Bureau Chief. He is contributing heavily to the cause of increased protection of life and property.

I have seen some interesting educational performances that have resulted from this progressive policy of standard fire apparatus builders. For instance, not so long ago, I staged a test of a newly purchased pumper, in its ability to deliver water on the top of a 38-story building. With readings of a pitot gauge at minute intervals, the pumper delivered 413 gallons of water per minute, with an 80 pound nozzle pressure and a 1¼-inch tip, and mind you, at about 60 per cent of the engine's maximum horse power. Certainly great credit is due the engineering organization making such a performance possible.

Perhaps Not Expecting Enough

"Are We Expecting Too Much of Our Fire Apparatus?" Again I say "no." Perhaps we are not expecting enough. What was considered exceptional performance some years back is now rather commonplace. More powerful and efficient motors are available, pumping units are always being improved upon, and aerial ladder equipment, like all the other, is continually being scrutinized for weaknesses or phases that can be bettered.

In closing, I would recommend that Fire Chiefs be even more exacting in the specifications which they draw up for new apparatus. The reliable and dependable apparatus builder can meet those specifications and will gladly do so. The builder that can't meet your specifications is a risk and may cause you serious embarrassment sometime when he is not able to meet your emergency demands.

Your position is a highly responsible one and you can not afford to risk your reputation by having included in the equipment of your Bureau, apparatus that may fail you in the hour of great need. If, at a fire, the equipment fails, one sentence in the newspaper stating the fact, does not impress the public. They forget the apparatus was bought because of the low price rather than for quality and dependability. They probably attribute failure to carelessness of the men and of the officers in not supervising the work properly. You must convince the purchasers that the lowest bidder does not mean the lowest cost to the taxpayer.

(From a paper read before the annual convention of the Eastern Association of Fire Chiefs.)

A Correction

In the June issue of FIRE ENGINEERING, page 288, there was a short account of an accident at Kingston, N. Y., in which two firemen were killed. It was stated that Chief Murphy believed the accident was caused by faulty brakes. An error was made in the transmission of facts. The accident was *not* due to faulty or defective brakes.

Side Trip to Texas Exposition

A number of the Chiefs who will attend the coming convention of the International Association of Fire Chiefs, are planning to make a side trip to Dallas, Tex., to attend the Greater Texas and Pan American Exposition.

The exposition affords a continually changing picture. In addition to the permanent exhibits, there are new programs each day.

Wardens Elect J. Campbell

At the annual meeting of the Middlesex County, Mass., Forest Fire Wardens' Association John Campbell, Special Service Department, Edison Electric Illuminating Company, Boston, was elected President; Lieutenant Arthur E. Tebbetts, Woburn, was chosen Secretary and Treasurer; Chief George L. Johnson, Waltham, was elected First Vice-President, and Chief Thomas A. Qualey, Medford, was elected Second Vice-President. Chief Taylor, Lexington; Chief Waite, Bedford, and Chief Skelton, Burlington, were chosen as the Executive Committee for the ensuing year.

HARRY BELKNAP.

PRACTICAL APPLICATION OF PRINCIPLES OF MUTUAL ASSISTANCE AT FIRES

How the Fire Chiefs' Association of Westchester County, N. Y., Handles the Problem of Helping One Another in Case of Conflagrations or Large Fires

By Ex-Chief Arthur E. Chambers
Yonkers, N. Y.

Ex-Chief Arthur E. Chambers

THERE is a great diversity of opinion regarding the problem of answering out-of-town calls, especially so when a charge for such service is involved.

The Fire Chiefs Emergency Plan, Westchester County, state of New York, after a great deal of time and thought expended in perfecting a system for rendering aid to a neighboring community in case of a disastrous fire beyond the resources of the fire fighting facilities at its command, is now operating under an agreement whereby immediate aid is furnished in such an emergency.

The entire county was charted, and each community furnished with a printed card, 19 x 24 inches in size, showing in detail each locality, the number and size of pumpers, trucks, amount of hose, and type of thread, water facilities, deluge sets, ambulance facilities, number of men, whether paid or volunteer, location of Fire Headquarters, telephone number and name of Chief in command.

Conditions of Variation Corrected

Several conditions were found to exist, namely, a difference in hose threads; inability of some communities to extend aid due to possibility of leaving their own town without sufficient protection; lack of authority to render immediate aid without first locating an official higher up, so permission might be obtained to leave their own town; and the question of individual liability, should a fireman become injured under such conditions, with the chance of damage to apparatus responding.

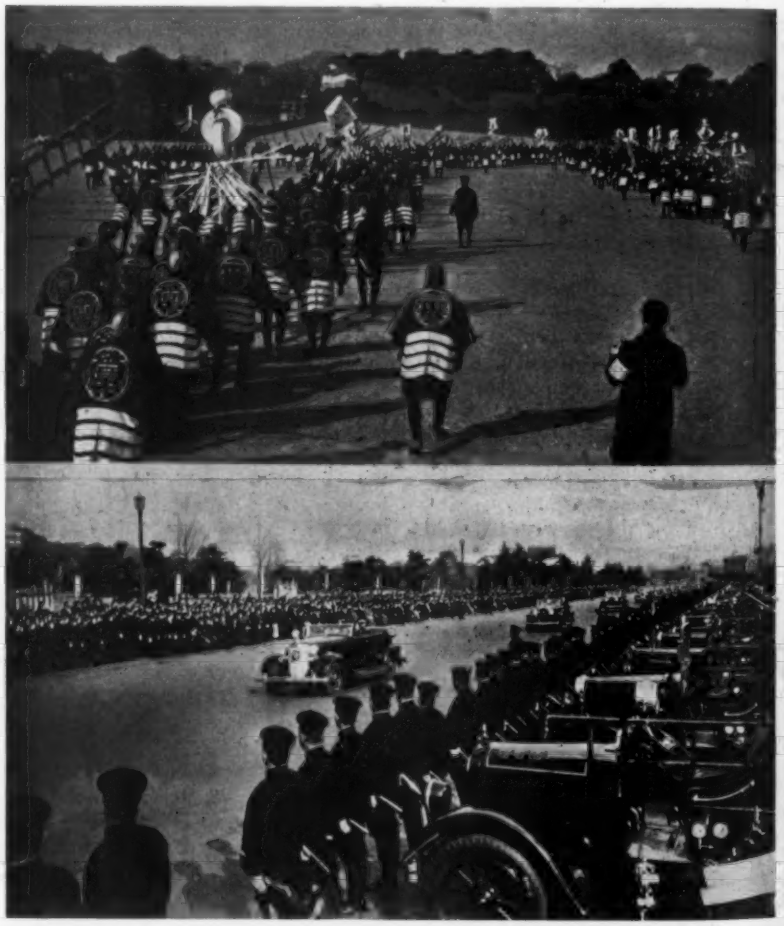
In compiling the card index, each community agreed to obtain hose thread adapters so as to remove any difficulty resulting from a difference of threads; to standardize the tips of the 2½-inch nozzle using the 1½-inch National Standard thread, so that 1½-inch hose lines would be interchangeable; and to bring to the attention of the proper authorities for correction poor water facilities found to exist in various localities. Firemen were protected by state legislation fostered by the "Plan," in case of injury to men or apparatus, while responding to or working at a fire in another locality. This law provided that the community calling for such aid assume all responsibility connected with the performance of these duties.

Adoption of Code Word for Calls

Another problem met was the unnecessary calls which frequently occur during the progress of a fire, when some bystander, feeling the fire is beyond the efforts of the local department, calls a neighboring city for help. Upon arrival the responding Chief would find that local commanding officer would not need outside assistance. This situation was met by the adoption of a secret code word, insuring such requests coming only by those in authority.

When Mutual Assistance Ignores Boundary Lines

The border line of cities and townships are not always an accurate indication that certain properties are situated entirely in one city or another. Many times the line passes directly through the center of homes, apartments and



The Tokyo Fire Fighters Pass in Review

Field Marshal Prince Mashimoto, Chief of the Fire Brigade of Tokyo, Japan, reviewed a large assemblage of fire-fighters and apparatus outside of the Imperial Palace, Tokyo. The upper photograph shows a part of the 6,100 volunteer firemen of Tokyo, clad in their traditional Happy Coats, marching toward the palace to take part in the review. Lower photograph, part of the total of 7,400 Japanese firemen in the plaza facing the main entrance of the Imperial Palace. There were 1,300 professional firemen and 6,100 volunteers in the gathering.

places of public assembly, and creates a condition requiring a spirit of complete understanding and strict co-operation between the Fire Departments of each municipality. In order to prevent friction and at the same time provide prompt aid in case of fire, the city of Yonkers has a working agreement with the city of New York on our south and the several townships on the north, whereby either department receiving an alarm for a fire and finding, upon response, it is over the boundary line will immediately stretch in and begin operations, sending in the fire alarm box over the line and working at the fire until the arrival of the department having jurisdiction. The other department then gradually eases away without attracting the attention of the general public.

While many cities in this country and nearly all foreign cities have instituted a system of service charges for different kinds of work performed upon request of another municipality, and for various calls in their own city not in the ordinary line of duty, the Fire Chiefs of Westchester County respond without hope or fee or reward to the aid of a brother officer in a neighboring city, who, from conditions beyond his control, is facing the destruction of his town. They are actuated entirely by the spirit of brotherly love toward those engaged in the same service, and the ability to render assistance when so urgently needed is in itself sufficient reward.

(From a paper read before the annual conference of the International Association of Fire Chiefs at Toronto, Ont.)

HOW THE CHIEF CAN EMPHASIZE THE NEED OF FIRE SAFETY IN THE HOME

Addresses Such as the Following Will Bring Home to the Householder the Need of Fire Prevention

By E. A. Taylor

Deputy State Fire Marshal of Oregon

THE importance and advantages of a definite plan to be followed in case of fire can not be over emphasized. The broad statement is made because fire is no respecter of persons, time or place. Fortunately, it is influenced by a few very common, easily understood natural laws. These laws are almost as simple as the law of gravity and if we will but recognize and respect them we will avoid many disastrous fires.

Heat and flames rise rapidly unless influenced by a draught or baffle. You can easily prove this law by experimenting with a lighted candle and a match. After placing a lighted candle in a convenient position where there is no draught approach it with an unused match at first holding the head of the match about 6 inches directly above the flame. Now very slowly lower the match, carefully noting its distance from the flame at the time the match is ignited. Take a new match and slowly approach the flame from the side or horizontal position and again from below. If you have never tried this experiment, you are going to be surprised at the results. You will find that the heat travels up much more readily than you realized. The danger to life from this natural law is emphasized by an actual experience.

Lack of Knowledge Cost Two Lives

Not long ago a housewife attempted to stimulate her kitchen fire with a little kerosene. With a flash the vapor exploded, scattering flames about the room and before she hardly realized what had happened the room was ablaze. Fortunately, she was not injured by the blast. The first thing she thought of was the safety of her baby asleep upstairs and she dashed frantically from the kitchen, ran up the stairway to the second floor, rushed to the bedroom and seized the child from its crib and started for the stairs.

The Fire Department arrived a few moments later, having responded to the alarm telephoned in by a nearby neighbor. They found the mother, with the child in her arms, both dead, in the upper hall and neither with a mark on them. Mind you, the fire was confined to the lower floor.

Let us analyze this most unfortunate catastrophe.

Did Not Know that Heat Rises

Heat rises. That is why the mother who had fortunately escaped the explosion which set fire to the kitchen was killed as she ran in the upper hall just a few seconds later. Rising heat from the fire below had flooded the upper hall. Temperatures above a blaze range from 1,000° to 1,800° and the hot air and gas rise very rapidly and with increasing pressure. Naturally it rises to the ceiling, spreads out finding any other openings, such as doors, where it gushes out and is ever working upward. As the mother dashed up the stairway she was ahead of the heat. It represents that time it took for the kitchen to be filled with heat and gas down to a line with the top of the doorway and sufficient heat to gush out the door, travel up the stairway and fill the upper hall. There it killed her in her tracks.

What should she have done?

Very simple—In the first place she should never have kindled a fire with kerosene. Second, she should have dashed from the kitchen, securely closing the door behind her. In turn, she should have closed every door behind her as she passed through.

In all probability, if she had closed the kitchen door she could have run upstairs, returned safely with the child, and with comparative ease. She could have at least closed the bedroom door and have been rescued from a bedroom by the firemen, for, remember, even with the doors all left open, the fire never spread beyond the first floor.

The upper floor is the sleeping floor in the average home and those sleeping in this part of the house are doubly exposed. A fire starting in the basement or lower floor can easily gain headway and with little chance of discovery. The rising heat can be deadly long before any fire exists, even in the upper halls.

The average two or more story residence is a fine fire trap. It has only one inside stairway and no fire escapes. Very few homes have emergency means of exit. The doors to most bedrooms in private homes are left open. A fire could start on the lower floor and the occupants never know about it until it was too late to even close the doors.

Loss of Life Often Due to Confusion

In the majority of cases, loss of life is due to confusion, accompanied by the shock of the first realization of the existence of a fire. This will be avoided if you have a definite plan firmly in mind. We have regular fire drills in the schools and it is indeed a slow school which is not cleared in less than two minutes. Two average city schools were timed in Pendleton and both cleared in less than one minute. Why not have a few home drills or at least a plan formulated, so that each individual would have a definite duty to perform?

Safety of Home Individual Responsibility

It is the duty of the State Fire Marshal to oversee the safety of and direct the means and adequacy of exit, in case of fire, from factories, asylums, hospitals, churches, schools, halls, theatres, amphitheatres and all other places where large numbers of persons work, live or congregate from time to time for any purpose, but it does not include the home. That is your responsibility. How well have you met it?

When you have stopped at hotels you have no doubt noticed signs and red lights marking the route to the fire escapes. You probably also noticed little glass paneled switches with small metal hammers hanging near them and marked "fire alarm." The breaking of the glass in any one of these switches will cause fire alarm gongs to ring continuously throughout the building. It is thought by some that these switches call the Fire Department. They do not, but are installed to warn all within the building of a fire. Note well the route to the nearest fire escape before retiring and don't forget it. You may be handicapped by heat and smoke, making it impossible to see these signs when you most need them. Remember heat rises—the coolest part of the room will be near the floor. Many times you would be able to crawl along the floor with comparative ease, when it would be impossible to stand up.

Form a plan and follow it, for after all a poor plan well executed is far better than no plan.

(From a weekly broadcast by the Oregon State Fire Marshal's Department, under direction of Hugh H Earle, State Fire Marshal.)

Dr. Price Tells New England Chiefs About Texas School Explosion

Conclusion of Report of Proceedings at the Fifteenth Annual Convention at Dixville Notch, N. H., June 22 to 24

By HARRY BELKNAP

FOLLOWING is the conclusion of the report of the fifteenth annual convention, New England Association of Fire Chiefs, which was held at The Balsams, Dixville Notch, N. H., on June 22 to 24. The first part of the report appeared commencing on page 334 of the last issue.

President Stockwell was in charge of the Wednesday morning session of the convention. The first speaker on the program was A. C. Hudson, Secretary of the New Hampshire Board of Fire Underwriters, who read a paper on "Co-operation Between the Fire Department and the Fire Insurance Underwriters." He explained the functions of the New Hampshire Board and said that in 1936 there were 8,824 inspections made and 216,000 forms of insurance policies were reviewed. The duties of the board include the fixing of rates and the supervision of automatic sprinkler installations. He said that schools and churches constitute a problem and pointed out the large number of high school buildings destroyed by fire in Massachusetts in recent years. He said the removal of old and dilapidated buildings was an important aid in fire prevention. In closing he offered to co-operate fully with the New Hampshire Chiefs. Upon motion by Chief Randlette, the speaker was given a vote of thanks for his paper.

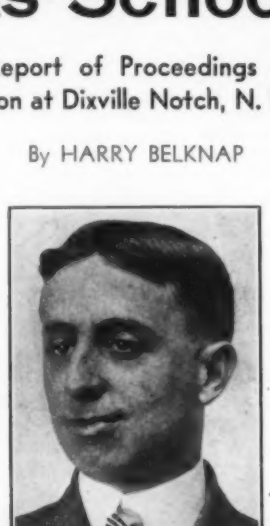
Hutson Speaks on Development of Fire Protection

The second speaker was A. C. Hutson, Engineer of the National Board of Fire Underwriters. He reviewed the history of the development of modern fire protection. He pointed out the problems of fire fighting in small towns, where the departments are composed of volunteers and drills and tournaments must be held in order to keep the men interested as in communities of 2,000 population there are usually not more than 10 actual fires per year. He told of district fire units to protect suburban areas outside of town lines.

Fire prevention inspections and proper building regulations are great aids in keeping down the fire loss, Mr. Hutson said.

"One of the greatest detriments to a volunteer department is the rotation of chief officers. A chief hardly gets to know his job before he is replaced. A good man should be kept on the job permanently," said the speaker.

Mr. Hutson told of the influence of automobiles on the fire service and said that motor apparatus had made communities within a radius of 50 miles neighbors in the matter of fire protection. He said the adoption of the two-platoon system had made the firemen's work more attractive to a higher class of recruits. It is now possible to select better men, he said. There should be enough apparatus on hand in reserve to provide equipment that could be handled by the off platoon as an extra force in an emergency.



Dr. David J. Price

He described the work of the National Board of Fire Underwriters. He said drills and training for firemen are important and that there were no drill schools 30 years ago.

At this point Ex-Chief Peter E. Walsh, of the Boston Fire Department, interrupted to say that Boston had a drill school 50 years ago.

"An open stairway in the center of a house is a chimney without bricks" Mr. Hutson said. Among the new devices adopted by Fire Departments within recent years he mentioned flood lights, siphons, spray nozzles, portable monitor nozzles, and pneumatic drills and air compressors, also ventilating fans or "smoke ejectors."

"Civil service has made the firemen study for promotion and has made the officers study, in order to keep ahead of the privates" Mr. Hutson said.

Chief F. R. Gisborne, of Old Greenwich, Conn., stated that insurance companies encourage arson by their manner of accepting policies without inspecting the goods insured and by "over insuring." He said that the adjusters "are playing Santa Claus all the time." He told of a fire in a single room containing only five pieces of furniture, on which an adjuster allowed a claim for a loss of $2,600.

Boston Fire Drill Methods

Chief Samuel J. Pope, of the Boston Fire Department, described the drill methods of the Boston Fire Department at the drill school and in the weekly company drills. He said daily drills are held by each company and every three months the Deputy Chiefs drill all companies in their divisions. He said there are four drill towers in Boston and the drill master, Captain John J. Crehan, is a competent and experienced official who is head of the Massachusetts Drillmaster's Association. Chief Pope described the course in the Boston Fire College and said there are 60 men in the fire prevention division of the department.

Chief Selden R. Allen, of Brookline, Mass., said that the insurance interests should "clean out their own nest before criticizing the Fire Departments." He said that some insurance agents will insure anything if the price offered is high enough. He told of several instances of arson due to over-insurance. He said that if it were as hard to get fire insurance as it is to get life insurance conditions would be much better. The Chief also criticized the "hop and jump" covering system of moving fire apparatus on multiple alarms which he said the National Board had recommended for Boston and some other cities.

A vote of thanks was given Mr. Hutson for his address.

President Bogan on I. A. F. C.

The next speaker was Chief Robert A. Bogan, of Baton Rouge, La., President of the International Association of Fire Chiefs. He told of the aims and plans of the International and outlined the program for the convention to be held in October in Oklahoma City.

Discussion was held on standard drill evolutions and on the hazards of butane gas.

Success of Talk-Alarm System

Chief Thomas F. Burns, of Bridgeport, Conn., was then introduced and told of the success of the Talk-Alarm System which has been installed in his city. He said all gongs have been removed and eleven fire houses have been equipped with the Talk-Alarm sirens and voice amplifying devices.

In discussion of the subject Mr. Hutson stated that the National Board has no objection to the transmitting of

alarms by voice, if this transmission is made as dependable as the ordinary fire alarm circuits. Supervision is needed, he pointed out. He also said that voice transmission is recognized as the poorest form of communication and many persons would not be qualified to make use of it. He said the telephone company has to carefully select and train its operators. He suggested that the alarm be given in three ways, by street number, street intersection, and fire alarm box number and that the vocal alarm be checked by register and tape.

Alfred A. Robinson, of The Talkalarm Company, of Bridgeport, Conn., was then introduced. He said that the Talkalarm system is a general despatcher's broadcast to give quick and concise information to all stations. He gave a detailed description of the apparatus and a demonstration of its operation.

Woman Fire Chief Speaks

The first speaker at the Wednesday afternoon session was Chief Anne Crawford Allen, of the Cedar Hill Fire Department, Cowesett, R. I., on "The Airplane Angle of Fire Fighting."

Miss Allen, the only woman Fire Chief in the New England States, who is also a forest fire warden in Kent County, R. I., told of her use of an airplane for forest fire patrol and for scouting large woods fires to ascertain their extent and to see what natural barriers such as streams or fields might aid in checking their extent.

The location of old woods roads or trails that might be used for passage of apparatus and men can be readily seen from the air and the use of an airplane makes for the more intelligent handling of forest fires.

The Airplane in Fire Fighting

The paper read by Miss Allen was in part as follows:

"That airplanes will be a recognized piece of Fire Department equipment in the future is a statement that anybody can make safely at the present time. However, their use now is purely experimental. So far as I know only one volunteer Fire Department and no permanent Fire Department in the United States can boast of the ownership of the airplane. There are many Chiefs and departments that utilize the services of airplanes upon occasion. But only the Cedar Hill Volunteer Fire Department, of which I am the Chief, can actually state that an airplane is listed as a piece of department owned apparatus. The service it can render is of such outstanding value that the limitation can be readily put up with.

"First and foremost is providing observation service to the Chief or Forest Warden in charge of a large forest fire. From a plane flying at an altitude as low as 500 feet an area of 50 square miles can be surveyed with ease. All roads and paths that might be used in fire fighting and all ponds and other sources of water supply can be seen. The nature of the woods involved in the fire and the kind of timber that lies in its path can be noted, so that the Chief will have a clear and accurate picture of the entire situation.

"Other uses of the airplane are in preparation of photographic maps of suburban areas and in the locating of bodies of drowning victims. Airplanes have also been used in assisting in the capture of escaped convicts and in dropping tear gas bombs to control riots.

"I shall not attempt to predict what the Fire Department airplanes of the future will look like. That they will be real fire-fighting machines I feel sure. But whether they utilize machine-gun-like nozzles to project fire-fighting gases into the heart of the roaring fire or whether they will be equipped like giant sound trucks with loud speakers capable of emitting tone signals on the wave length that the fire is burning on, that is too much to say. But I do say that in the not too distant future I feel confident we shall see small, low powered planes being used as regular pieces of Fire Department apparatus in the more rural fire districts, where observance of large areas is an absolute necessity and where first aid or other emergency equipment could be taken quickly by air to a flooded district."

A rising vote of thanks was given the speaker.

Hazards of Dust Explosions

The second speaker was Dr. David J. Price, Principal Engineer in Charge, Chemical Engineering Research Division, United States Department of Agriculture. He described the hazards of dust explosions and showed the cap and sweater worn by Chief Burnett, of Des Moines, when the latter was killed in an explosion. "If the Chief had been properly attired in helmet and rubber coat he might not have been killed" the doctor said. He told of fires caused by water such as spontaneous ignition of damp hay.

Dr. Price told the New England Chiefs that the cause of the explosion in the New London, Tex., schoolhouse on March 18 has been definitely determined, and that steps should be taken to prevent similar occurrences in schoolhouses and other public buildings.

Dr. Price was assigned by Secretary Wallace to direct the investigation of the explosion at the request of Governor James V. Allred of Texas. He cooperated with the Texas State Military Court of Inquiry and the final report of his investigation was presented to the U. S. Senate by Senator Tom Connally of Texas and recently published as Senate Document 56.

In his report Dr. Price stated that the cause of the explosion was the ignition of combustible natural gas that had accumulated in the large open, unoccupied area under the first floor of the building, where many of the classrooms were located, by a flash from an electric switch in connection with the operation of a portable sanding machine in the manual training shop. This explosion, which occurred at a time when practically all the classrooms on the floor above were occupied, lifted the floor, blew out the walls, causing the roof to collapse, and resulted in the death of approximately 300 pupils and teachers.

Dr. Price called the attention of the Chiefs to other explosions and fires in public buildings and meeting places where there had been large losses of life. A total of 5,678 lives were lost in the more than 70 tragedies to which he referred. The largest life loss was on the excursion steamer, General Slocum, in New York City on June 15, 1904, when 1,030 people died. In the Iroquois Theater fire in Chicago on December 30, 1903, 603 lives were lost.

Experience in Investigation of Texas School Explosion

Dr. Price told the Chiefs of an unusual experience he had during the investigation of the Texas school explosion. While examining the ruins for evidence that might have a bearing on the cause of the explosion, a science book entitled, "Chemistry for Today," apparently owned by one of the high school pupils killed by the explosion, was picked up by Dr. Price from the floor of the manual training shop and found open at page 367, section 476 entitled, "Explosions and Explosive Mixtures." This section ironically read as follows:

"We often read of some disastrous explosion caused by the escape of fuel gas in a house. It is of interest to inquire into the cause of explosions and to learn the reason for their terrific power. An explosion is due to a sudden chemical reaction in which the volume of gases formed in the reaction is much larger than that of the reacting substances; hence if the reacting substances are confined, as in a room or house, something must give way."

The firemen were very much interested when Dr. Price showed them the pages of the book stained with blood and many of them sticking together. He said this was indeed a most unusual experience to have in the investigation of a violent explosion.

Recommendations for Prevention of Similar Occurrences

Dr. Price said he hoped that the Texas schoolhouse explosion, in which so many boys and girls were killed, would not be just an "historical occurrence," but that the Fire Departments throughout the country and every other agency would do all in their power to make school buildings safe for boys and girls in every part of the United States.

In closing his address, Dr. Price asked the Chiefs on returning to their home towns to take steps to have all school buildings properly inspected to make certain that all combustible and explosive materials are removed from unoccupied storage spaces underneath or adjoining classrooms where pupils are required to assemble. He said it is only in this way that our boys and girls can be assured of adequate safety in school buildings.

A rising vote of thanks was given Dr. Price for his address. In the discussion that followed Ex-Chief Peter E. Walsh, of Boston; Chief Robert A. Bogan, of Baton Rouge, La.; Chief Richard A. Magee, of Truro, Mass., and Chief William A. Blair, of Nantucket, Mass., spoke briefly. Hazards of soy bean products and hexane gas explosions were discussed.

Chief Blair told of a fire in Nantucket where carbon tetrachloride was used on a fire after foam had been employed to partially extinguish it and a violent explosion took place. The fire in question was burning tar.

Telegrams of greetings were read by Secretary O'Hearn from Fire Commissioner George W. Good, of Brookline, Mass., and from Commissioner Paul Kirk, of the Massachusetts Department of Public Safety.

The last speaker on the program was Stephen C. Garrity, State Fire Marshal of Massachusetts. He thanked the Chiefs for their co-operation and said that a survey had been made of all the emergency Fire Department equipment in Massachusetts and an index made of it, so that any desired item could be quickly located and obtained from the source nearest to the emergency. The marshal concluded his talk by saying that the day of constant inspection and investigation is here and that Fire Pre-

vention Week is now observed every week in the year.

No Set Speeches at Banquet

The annual convention banquet was held on Wednesday evening, June 23. Chief Allen acted as toastmaster, but there were no formal or set speeches. Chief George L. Johnson, Waltham, Mass., and Chief Daniel B. Tierney, Arlington, Mass., First Vice-President of the International, were called upon for a few remarks. Others at the head table either took a bow or spoke briefly. Chief Bogan was presented with a baby's bonnet, a gift for his baby daughter from Chief and Mrs. Tierney. Charles "Sandy" Chapman led in the singing of popular songs and old time favorite melodies. Captain Frank Doudera, the owner and manager of The Balsams, was called upon for a few remarks and received hearty applause.

Committee Reports at Final Session

The final session of the convention took place on Thursday morning when reports were received and officers elected for the ensuing year. Vice-President Randlette opened the meeting and Secretary O'Hearn read the minutes of directors' meetings held during the year. He then gave his annual report which showed a total membership of 794.

Chief William C. Mahoney, of Peabody, Mass., reported for the Auditing Committee, and Chief Albert C. Melendy, of Nashua, N. H., reported for the Exhibit Committee.

The report of the Registration Committee, which was headed by Chief Oliver T. Sanborn, of Portland, Me., showed a total attendance at the convention of 523, including 178 active members, 105 associate members, 110 men guests, and 130 lady guests. Forty-one new members were received into the association.

Chief Allen reported for the Committee on Courtesies. Letters of invitation for next year's convention were read from the Poland Springs House, Poland Springs, Me.; the Mayor of Burlington, Vt., and from the Mayor and Chamber of Commerce in Providence, R. I., and from the Providence Biltmore Hotel. It was voted to refer the matter to the officers and Board of Directors.

Election of Officers

President Stockwell took the Chair for the election of officers which concluded the business of the convention. A past president's badge was presented to Chief Stockwell and he was also given a gift of a handsome traveling bag.

The new officers are:

The new officers are:

Chief Joseph W. Randlette, Richmond, Me., President; Chief Thomas F. Burns, Bridgeport, Conn., First Vice-President; Chief Samuel J. Pope, Boston, Mass., Second Vice-President; Chief John W. O'Hearn, Watertown, Mass., Secretary-Treasurer; Chief William T. Happny, Concord, N. H., Sergeant-at-Arms; and Harry Kelknap, Boston, Mass., Press Representative.

The following were named State Vice-Presidents:

Chief Sanborn, Portland, Me.; Chief French, Manchester, N. H.; Chief Koltonski, Rutland, Vt.; Chief Mahoney Peabody, Mass.; Chief Cote, Woonsocket, R. I., and Chief Lawton, Middletown, Conn. Chief O'Hearn was elected director for New England in the International Association.

The badges for the convention were presented through the courtesy of the New Hampshire Fire Insurance Company, Manchester, N. H. Copies of the Boston Herald were distributed by the American-LaFrance and Foamite Industries, Inc. Miniature fire hat pins were given by the C. G. Braxmar Company, badge makers.

Mrs. Mildred Hart acted as official stenographer. The exhibits were held in the garage in the rear of the administration building of the hotel.

The demonstrations were held on Wednesday afternoon and featured the Griswold fog nozzles, Eastman deluge guns, and a Gorham portable forest fire pumping unit.

A detailed description of the exhibits and demonstrations follows:

Description of the Exhibits

Six pieces of motor apparatus and a large display of fire equipment and supplies of all kinds featured the exhibits.

Chief Albert C. Melendy, of Nashua, N. H., was chairman of the Exhibit Committee. It had been hoped that several new enclosed pieces of fire apparatus might be on display; but the manufacturers found it impossible to complete this apparatus in time for showing at the convention. The nearest thing to an all enclosed job was the motor pumper and hose wagon built for Watertown, Mass., which was fitted with a closed cab to protect the driver and officer riding on the front seat.

The Ahrens-Fox Fire Engine Company, Cincinnati, O., showed a Series V, 500-gallon centrifugal motor pumping engine and hose car fitted with a 100-gallon booster tank and pump. This machine has been sold to the town of Onset, Mass., where it will be known as Engine No. 2.

A large illuminated poster view of an Ahrens-Fox piston pumper in action throwing powerful streams during a test at Elyria, O., attracted attention. The company representatives present at the convention were Clarence E. Meek, New York District Manager; Elwood Yoho, Field Engineer, and Earl Moulton and I. A. Ballou, Jr., New England representatives.

A Barton-Ford motor pumper and hose wagon was exhibited by the Farrar Company, Woodville, Mass. This front end U type pump had a capacity of 400 gallons per minute. The machine has been sold to the town of Warner, N. H. The firm also exhibited a Barton pump with Hercules motor for forest fire work. A Barton Type F front end pump completed the display. Clarence Farrar and George Edmunds of Woodville, and Chester Farrar of Westboro, Mass., were the representatives.

The Mack Truck, Inc., New York City, exhibited a Mack motor pumper and hose wagon built for the town of Farmingdale, N. J. The firm was represented by W. A. Maynard, New England Division Manager; H. A. Scharfenberg, of New York; Frank Harrington, asst. New England manager; Charles Stewart, New England representative; and John Dans, engineer.

The American-LaFrance and Foamite Industries, Inc., of Elmira, N. Y., showed two motor pumping engines and a full line of Fire Department supplies. The larger of the two units was a 1,250-gallon triple combination centrifugal pumper. The second pumper, built for North Conway, N. H., was a 500-gallon rotary gear pumper. It was fitted with an Eastman portable gun. Among the items of fire equipment shown by this firm were Foamite generators and Foamite extinguishers, fire guns, Alfite extinguishers, Arrow and Rough Rider extinguishers, LaFrance inhalators and cannister masks, tannic acid spray kits, and the Foamaster foam hip pack. The American-LaFrance men attending the convention were Lester J. Creaser, New England sales manager; Joseph Webber, apparatus sales manager; Ex-Chief Harry J. Monahan, of Berlin, N. H.; Lawrence Carolan, William Starr, William Taylor, George Loomis, Stephen R. Jones, James Coffin, William H. McCorkle, and James Shea.

The Maxim Motor Company, Middle-

A Bit of the Old With the New

Frank W. Bender, Sr., eighty-two years old, a volunteer fireman of Saginaw, Mich., who was pensioned in 1919, after nearly fifty years of service, is telling his son, Chief Frank W. Bender, Jr., present head of the department, how this old Clapp & Jones steamer operated back in the 80's. For a number of years Mr. Bender, Sr., fired a steamer similar to this one. "Uncle Frank" Bender is a product of the old days of fire fighting, when it was popularly believed that to be a good fireman it was necessary that a man have good lungs, stout legs, and the knack of making a plug of tobacco last through a mill fire.

boro, Mass., displayed an enclosed cab type motor pumper and hose wagon built for Watertown, Mass. The equipment included a portable gun.

Fire Department supplies shown by the Maxim Company included the Smith Indian Fire Pump, Pyrene extinguishers, Trippe fog lights, Carpenter lights, Griswold Fog Nozzle, Cooper hose jackets, Maxim relief valves, axes, crow-bars, plaster hooks, Tan-Spray first aid kit, Hewitt hose, A Fold ladder with folding hook, extinguisher holders, the Maxim no-sand strainer, and a Maxim forest fire pump of 100 gallons capacity. These pumps have a 4-cylinder motor and are made in both rotary and centrifugal types. Maxim representatives present were Ernest L. Maxim, Leighton Maxim, Merrill A. Shaw, Robert A. Clark, Russell Brown, and Joseph Whitcomb.

The Mine Safety Appliance Company, represented by Captain Alfred Kinsella, showed the H and H inhalator, the M. S. A. ammonia mask, the M. S. A. first aid kit, the Burrell all service mask, and Bakelite fire helmets.

The Fabric Fire Hose Company, Sandy Hook, Conn., displayed its brand of fire hose. The representatives were J. H. Ringers, general sales manager; Robert Many Wood, P. A. Wood, L. R. Meany, O. B. Maxwell, and P. R. Lewis.

The Eastern Fire Equipment Company, Portland, Me., exhibited Quaker City fire hose made by the Quaker City Rubber Company, and a hose display panel showing materials used in the manufacture of fire hose. The Ayer clamp for fastening ladders to metal roofs was shown, also hose clamps invented by Ex-Chief Herbert D. Ayer, of Fairfield, Me. Erlon S. Noyes was in charge of the display.

The Atlas Life Saving Machine and the Atlas Life Saving Belt were shown by the Atlas Fire Equipment Company, of New York City. The firm also makes rope training nets. William Moeller, of New York City, was in charge

Chief Edward W. Taylor, of Lexington, Mass., displayed the Minute Man Hose Bridge made by the Taylor Manufacturing Company, of Lexington, Mass.

The Gorham Fire Equipment Company, Boston, exhibited a full line of Fire Department supplies, including spanners, nozzles, extinguishers, fire hats, Kant Blaze Blankets, metal car plates, badges, rubber landing pads, Sterling sirens, folding buckets, Pulmosan respirators, safety lamps, Gorham pump cans, and Gorham portable forest fire pumps. Joseph W. Gorham and Harold F. DeCourcy were in charge.

The Gamewell Company, Newton, Mass., exhibited a Gamewell fire alarm box and pedestal, the Sprinklastat, the Vocalarm system of Fire Department communication, and the Rockwood dry pipe, wet pipe, and dualguard systems of automatic sprinkler and thermostatic protection for factories and homes. The Gamewell staff was headed by President Vincent C. Stanley and included Frank R. Bridges, chief engineer; Arthur Donovan, Charles T. Smith, Leonard Dawson, Russell A. Glenn, Everett Angier and Earl Smiddy, also John J. Ryan, of the Rockwood Sprinkler Company.

The American Fire Equipment Company, Boston, had a large display, including Smith Indian Fire Pumps, Wheat lights and chargers, Federal sirens, Republic fire hose, King Lites, Clark duplex inhalators, Tarment foot valves, Elkhart and Akron nozzles, Porter bar cutters, Kant Blaze Blankets, M. S. A. Micarte helmets, extinguishers, hose bridges, axes, and various other fire tools. President John J. Scully was assisted by Joseph A. McLaughlin, S. B. Dyer, Hubert W. Tracy, and Lee Gravelle.

Eastman nozzles and deluge guns were shown by the Samuel Eastman Company, of Concord, N. H.

The Midwestern Manufacturing Company, Mackinaw, Ill., showed a full line of firemen's rubber garments, including rubber coats and turnouts. I. A. Luft, of Providence, R. I., New England representative, was in charge.

The American District Telegraph Company had a display of posters and illuminated signs showing the A. D. T. waterflow alarm system, the A. D. T. automatic fire detecting and reporting systems, and the Aero automatic fire alarm system for installation in industrial establishments.

The Eureka Fire Hose Division of the United States Rubber Products, Inc., New York, showed the Eureka brands of Fire Department hose. The representatives in attendance were Joseph H. Green, General Manager; John T. Dwyer, A. Lee Cowles, and Al Schofield.

The Bi-Lateral Fire Hose Company, maker of Bi-Lateral Hose, was represented by E. G. Clewly, New England agent.

The Goodrich brands of fire hose were shown by Harry J. Lovell, Boston, who is the New England representative of the Goodrich firm.

The usual display of badges, officers' insignia, and metal car plates was shown by the C. G. Braxmar Company, New York City. George E. Bradbrook and J. O. Veit were in charge.

Oberdorfer portable pumps and other fire-fighting equipment made by the M. L. Oberdorfer Brass Company, Syracuse, N. Y., were shown by the New England representative, the Fabric Fire Hose Company.

Robert W. Haskell and Associates, Fire Protection Engineers, Claremont, N. H., displayed Red Rung fire ladders, Goodrich fire hose, sprinkler heads, automatic burglar and fire alarms, Sterling sirens, fire hose and hose fittings, lightning rods, first aid equipment, and Fyr Fyter extinguishers. Dupont fabric covers, rubber coats, the Gamewell Vitalarm and municipal supplies of various kinds were also shown. R. W. Haskell, of Claremont, and C. Williard Pike, of Colebrook, were in charge.

FIRE ENGINEERING and the fire promotion hand-books, published by the Case-Shepperd-Mann Publishing Corporation, of New York City, had a large display. Fred Shepperd, Editorial Director; I. Herbert Case, Vice-President and General Manager; and Harry Belknap, New England Correspondent, were at the convention.

The D. B. Smith Company, Utica, N. Y., showed the Indian Fire Pumps for forest and brush fires; also water supply cans. Thomas M. Burton was in charge.

Uniforms and caps for Fire Department officers and privates were shown by the Fred W. Batchelder Company, Boston, Mass.

The Automatic Hose Coupling Company, Inc., Milford, Mass., exhibited "Feather-weight Couplings."

Pacific pumps for forest fire duty, Blanchard nozzles, fittings and Fire Department equipment of all kinds, including products of the Boston Woven Hose and Rubber Company, were shown by the Arthur H. Blanchard Company, Cambridge, Mass. Arthur Blanchard, D. Blanchard, Frank M. Grant, and Edward J. "Tip" O'Neil were in charge.

The Justin A. McCarthy Company, Boston, Mass., displayed the Elkhart mystery nozzle, Davis inhalators, Couplings, nozzles, chemical and foam extinguishers, lights, pump cans, sirens, helmets, first aid kits, and a complete line of Fire Department supplies, including Manhattan fire hose. Justin A. McCarthy and Arthur E. Lindh were in charge.

The Teuber Lenz Company, Man-

8-37
FIRE FACTS
BY. OTIS SMITH
THE MODERN FIRE BOX IS THE RESULT OF TEN YEARS OF EXPERIMENTING. IT TOOK THAT LONG TO PERFECT IT FROM THE SIMPLE MAKE-AND-BREAK TYPE.
SEA WATER IS AN EXCELLENT CONDUCTOR OF ELECTRICITY; FRESH WATER A VERY POOR ONE. A FRESH WATER STREAM MAY BE DIRECTED AT HIGH VOLTAGE WIRES WITH SAFETY IF THE DISTANCE FROM NOZZLE TO CHARGED WIRES IS 50 FEET OR MORE.
THE ORIGINAL POMPIER WAS LIKE OUR PRESENT ROOF LADDERS.
IT WAS FIRST USED BY FRANCE AND OTHER CONTINENTAL COUNTRIES.

chester, N. H., showed the Teu-Len hand and hydraulic hose clamps. George Teuber was in charge.

The Voltex Corporation, Natick, Mass., exhibited a system of Fire Department communication, including inter-station and box communication and Fire Department broadcasting equipment. Richard C. Buck was the representative in charge.

Flood lights and electric generating sets for use on Fire Department apparatus were shown by the Homelight Corporation.

Red Chain forestry hose was displayed by Charles Niedner's Sons Company, Malden, Mass.

The Boston Coupling Company and the Akron Brass Manufacturing Company exhibited nozzles, wagon guns, couplings, and portable monitor nozzles.

Among the heavy stream appliances on view in the exhibit hall were Morse guns and Eastman deluge sets.

The Talk Alarm Company, Bridgeport, Conn., showed the Talk Alarm system of Fire Department communication.

The Brown Company, Berlin, N. H., had an interesting and educational exhibit showing the process of making paper and other goods from pulp wood, Solka products, including towels and conduits, Onco inner soles for shoes, and Solkaf leather used in the manufacture of pocketbooks were displayed. Chemicals used in the making of woven cloth from pulp wood were also shown. S. D. Story was in charge.

The Demonstrations

Demonstrations of the Griswold Fog Nozzle, Eastman-Barker deluge guns, and Gorham Forest Fire Pump took place on Wednesday afternoon, June 23, at The Balsams, under general supervision of Chief Albert C. Melendy, of Nashua, N. H., Chairman of the Exhibit Committee of the New England Association of Fire Chiefs.

The tests were held in the field just south of The Balsams Administration Building. The fog nozzle demonstrations were given by Captain Samuel Hogan, of the Los Angeles County, Cal., Fire Department and K. R. Pitcher, of the California Fog Nozzle Company.

Tests included controlling and extinguishing a tub of blazing gasoline. Three tubs of gasoline placed parallel, three tubs one placed above two others, fire in a large open top oil drum, a large open pit fire of gasoline and fuel oil, a trench fire, and a fire in a tin clad shed, fed by an open gasoline pipe from a drum, to simulate conditions in a garage fire. The water pressure at the hydrant was 150 pounds. The spray and vapor from the fog nozzle effectively controlled and extinguished the fires.

Horace Barker and George Robinson were in charge of the display of Eastman deluge guns with Barker tips. This demonstration was put on by the Samuel Eastman Company, Concord, N. H.

Chief Frank Copeland, Raynham, Mass., and Harold DeCourcy showed the Gorham portable gasoline forest fire pump for the Gorham Fire Equipment Company, Boston, Mass. The engine is an Austin fitted with an Oberdorfer pump. The capacity of the unit is 75 gallons per minute.

New England Convention Sidelights

The white sashes with gold lettering worn by the members of the Ladies' Committee lent a sort of a Salvation Army-Lady Delegate appearance to the lobby of the hotel.

George Morley and Bert Case represented the long and the short of the convention, while Chief Frank Tracy, Woburn, Mass., and Chief Clayton W. Bishop, Onset, Mass., were the oldest and youngest active Chiefs in attendance.

Chief Sanborn, Portland, Me., and Earl Moulton, Worcester, Mass., were among the enthusiastic and successful trout fishermen in Lake Gloriette. Fred Shepperd and Joe Green also went fishing.

A bevy of feminine beauties enjoyed a ride around the lake by the shore road as crew of the new Mack motor pumper that had been on display in the exhibit hall.

Charles "Sandy" Chapman led the singing at the banquet. His wife won praise for her bravery in swimming in the chilly water of the lake in the early morning.

"Dan" Looney, Secretary of the Massachusetts State Firemen's Association, tried to climb Table Rock Mountain, with Chief Pope, Boston. They came back somewhat weary and mud-bespattered.

The albino doe in the Boar's Head Tavern created much interest. It was shot not far from the hotel in spite of Captain Doudera's attempts to protect it from the guns of hunters. He had the carcass mounted.

HARRY BELKNAP.

New Type Examination for Firemen

Something different in examination for firemen, was tried out by the Municipal Civil Service Commission of New York City when 16,000 applicants took an examination for the rank of fireman.

A number of sheets with various geometric designs are illustrated. Each sheet is numbered with an item number. Underneath the item number is a figure. The applicant is supposed to mark two of the figures on that sheet which when put together will approximate the shape of the original figure. As for example, two semi-circles when put together will approximate the circle of Sample IV.

One of the Questions

Here is another of the questions asked:

"At 2 o'clock in the morning Mrs. Smart awakened her nusband and said the house was on nre. Mr. Smart dressed hurriedly, ran seventeen blocks past five fire alarm boxes to tne fire station and told the firemen that his house was on fire. When Mr. Smart and the firemen had returned, the house had burned down.

"This was an illustration of the (a) need for a plentiful supply of fire alarm boxes; (b) fact that fire is no respecter of persons; (c) necessity of preventing fires; (d) desirability of educating the public; (e) need for more fire stations."

Tests Knowledge of Government

The applicants' knowledge of government and public affairs was tested in the following questions:

"The N. L. R. B. deals mainly with problems relating to (a) naturalization, (b) railroad rates, (c) boards of taxes and assessments, (d) housing, (e) labor."

"The Supreme Court member who recently resigned is (a) Hughes, (b) Vandevanter, (c) Roberts, (d) Cardozo, (e) Sutherland."

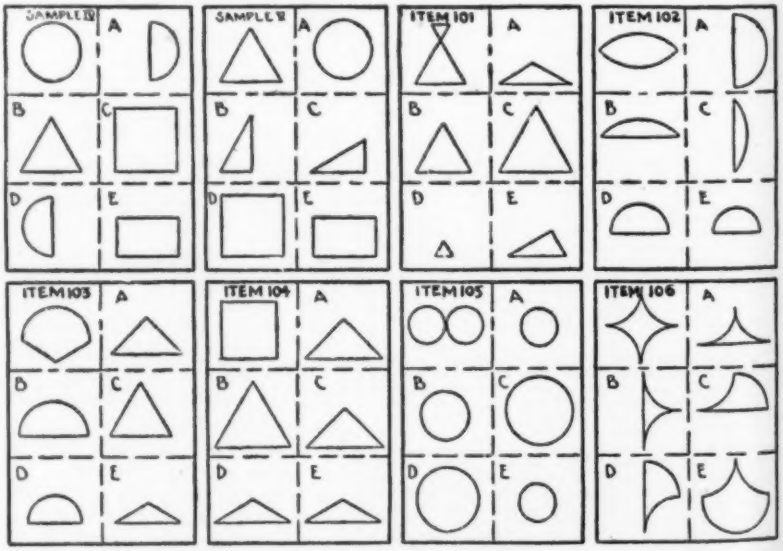
"It is least characteristic of the large, modern corporation that (a) ownership is divorced from control, (b) liability of stockholders is limited, (c) it derives its powers from the state, (d) it is free from taxation, (e) the use of proxies is almost universal."

The following question was to test the applicants' use of common sense in an emergency:

"Of the following the best action to take when small amounts of water have collected on a floor after a fire is to (a) use a vacuum cleaner, (b) sprinkle with sawdust, (c) apply heat, (d) cover with asbestos, (e) use a hand fire extinguisher."

Chief Koeber, Bloomfield, Retires

Chief George E. Koeber is retiring as Chief of the Bloomfield, N. J., Fire Department. He leaves the service on September 1.



This May Not Be Fighting Fires, but It Is a Question Asked in a Recent Examination for New York Firemen

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Definitions

Apron: A covering of timber or metal to protect a surface against the action of water flowing over it. In theatres, it is the portion of the stage floor which projects into the auditorium.

Arc Lamp: An electric lamp in which the light is produced by an electric arc formed by passing a current across the space between two carbons.

Asbestos Wood: Sheets of building material made of short fibre asbestos mixed with cement.

Assured (or the Insured): The person mentioned in the insurance policy as the legal owner or custodian of the property insured.

Questions

(To be answered in next issue)

1. You answer an alarm of fire at 2 a.m. in a three story tenement house. Fire has gained considerable headway. The roofs of several buildings in the vicinity have ignited from sparks. You are in charge for 15 minutes. State in detail your actions until the arrival of a superior officer.
2. If a motor pumping engine (centrifugal), rated at 300 pounds pressure is hooked up in tandem with a high pressure hydrant, delivering 300 pounds pressure to the pumper, what would be the effect at the pumper outlet?

   Would the pressure at the outletlet be the same as the hydrant, or would it be increased, and how much?

   Would the discharge from the pumper be the same as from the hydrant or would it be increased, and how much?
3. Are animal oils in any form susceptible to spontaneous ignition? Are animal oils volatile?

False and True Questions

(Is each question false or true? Answers in next issue)

4. T F—Water is efficient in extinguishing fires of all kinds.
5. T F—It is not worth while to siamese hose lines on very long stretches.
6. T F—During a fire in a sprinklered building it is desirable that the sprinklers be kept supplied.
7. T F—No particular life hazard is involved in fighting fires involving baled fibres such as jute, tow, cotton and paper.
8. T F—Saving of time is a non-essential feature in the transmission of fire alarm signals.
9. T F—Factories are seldom located so that they will be exposed to danger of fire from their neighbors.
10. T F—Foodstuffs subjected to smoke and heat have little value from the standpoint of salvage.
11. T F—Location of ship fires is sometimes ascertained by the color of plates above the water line.
12. T F—An explosion is the instantaneous burning of material, with the liberation of heat and gases.
13. T F—Sprinkler systems in operation at a fire should be carefully watched by salvage men as a means of avoiding unnecessary water damage.
14. T F—Officers are not required to ascertain whether or not their orders are clearly understood by their men.
15. T F—In laying out hose, the hose wagon should keep to the hydrant side of the street.
16. T F—The first duty of the Fire Department officer in charge of a fire on a ship is to get in touch with the Captain or 1st Mate of the ship.
17. T F—Foreign materials in the interior of a grinding machine can cause a dust explosion.
18. T F—Centrifugal pumps have the ability to create a vacuum while positive displacement pumps have not.
19. T F—A cubic gallon of water is 12 inches wide, 12 inches high and 12 long.
20. T F—Ventilation is one of the greatest aids in extinguishing ship fires.
21. T F—There is a dust explosion hazard in connection with the following: feathers, magnesium, zinc, grain, cork.
22. T F—Ventilating a building on fire sometimes appears to be the wrong thing to do.

Completion Statements

23. The "burning point" of a material is that temperature at which .....
24. Carbon has a ..... "burning point" than wood.
25. Heat travels from point to point by one or more of the following three methods: ..... and ....., and .....
26. Hydrocyanic acid gas may be formed when the discharge of a ..... extinguisher strikes a fire but not when the discharge of a ..... extinguisher strikes a fire.

Answers to Questions in Previous Issue

1. Like questions which sometimes appear in Civil Service promotional examinations, this question is somewhat vague. For example, the following questions immediately arise in the mind of the student: Where did the fire start? Just how much of the building is involved? On what alarm does company respond? What time did fire occur? Why is the gas mask mentioned?

Assumptions will have to be made to cover the points not specifically covered in the question.

The building is evidently of large area, and of inflammable construction, having woodwork in the light shaft. In order to cut off the hallway on the ground floor, apparently meant by "first floor" there must be such a hallway on the ground floor, although in the problem it refers only to hallways on the second and third floors. If the hallway is cut off, apparently fire has burned up from the basement. In such a case it is safe to assume that the basement is fairly well involved with fire, as well as the light shaft.

Assuming company answers a still alarm, a first and second alarm would immediately be sounded, to bring out sufficient apparatus to take care of the severe life hazard, and hold the fire. Furthermore, it is assumed that the fire occurs at night, which represents the most dangerous condition.

The first engine company should stretch in two lines at once, to cover the hallway on both sides of the fire, at the ground floor. One of the lines would operate in holding the fire from making further progress up light shaft.

The truck company responding on the still alarm (it being assumed that at least one engine company responds on a still alarm with the first truck company) will have to take care of the life hazard. Two members of the truck company should be sent at once to roof to open up scuttle, and open up over light shaft. This will draw the smoke and heat up through the building, and assist subsequent operations by engine company.

The front stairwell is still available for use. Send the members of truck company to second and third floors to direct occupants of building to the front stairway. As there are no fire escapes, in an emergency it may be necessary to use ladders to get persons from the second and third floors to the street.

This will not be likely, however, in view of the fact that the fire has gained but limited hold on the first floor. Furthermore the ventilation done by members of the truck company will keep the fire confined to one channel sufficiently long to get the persons out of the building.

Second due engine company, stretch by way of ladder to second floor, if stairways are still being employed for getting the people out of the building. This line to cover hallway, and wet down in light shaft.

Third engine company stretch in a line to the third floor, to cover the light shaft and wet down wherever fire is entering the third floor.

Following companies would be assigned to operate on the basement fire, care being taken not to permit companies on upper floors to become trapped by the fast spread of fire.

In operating on the basement fire, ventilation should be provided front and rear and streams got into play, either through doorways leading to the basement, or through holes cut in floor.

There should be no necessity of using the gas mask referred to in the question, for proper ventilation will clear the smoke out of the building, with the exception of the basement, where lines would not enter until proper ventilation is provided.

2. Spontaneous ignition refers to ignition without the aid of an outside source of heat. In the case of steam pipes, they can produce ignition through charring combustible materials in contact with them, such materials subsequently absorbing air at a high rate and bursting into flame. This could hardly be classed as spontaneous ignition, however. A better way to state this answer would be to say that steam pipes speed up spontaneous ignition by their heating effect.

3. A good officer overlooks no violation of rules by members of his company. In the case of a lieutenant noticing a trifling violation on the part of one of his members, he should warn the member, calling him aside to do so. Under these conditions, upon repetition of the violation, the lieutenant takes such action as provided by the rules and regulations.

4. True; 5. True; 6. True; 7. False; 8. True; 9. False; 10. False; 11. True; 12. True; 13. True; 14. False; 15. True; 16. True; 17. False; 18. True; 19. True; 20. False; 21. False; 22. False; 23. False.

24. . . . salt.

25. . . . inside. . . .

26. . . . mechanical injury . . . heat . . . chemicals . . . neglect.

27. . . . burn. . . . .

"EASTERN REGULARS" PLAN TRIP TO OKLAHOMA CITY CONFERENCE

Special Air-Conditioned Train Planned for Eastern Delegates to the I. A. F. C. Convention, with a Stop Off at Buffalo, N. Y., on Sunday Morning

A SPECIAL trip to the Oklahoma City Conference of the International Association of Fire Chiefs and return is being planned by the "Eastern Regulars," which includes a special air-conditioned train over the Lehigh Valley Railroad, provided a sufficient number of delegates and guests sign up for the trip.

An invitation has been extended to the New England and Great Lakes Associations of Fire Chiefs to join with the party. The convention headquarters at Oklahoma City will be the Oklahoma-Biltmore Hotel.

It is planned for the train to leave the Pennsylvania Station, New York City, at 6:45 p.m., Saturday October 16. There is to be a stop off at Buffalo, N. Y., on Sunday morning, the train arriving at 5 a.m., and leaving at 8:25 a.m. Returning, the train leaves the Oklahoma City station at 4:50 p.m. on Friday, October 22 and arrives in New York City, Pennsylvania Station, at 9:30 a.m., Sunday, October 24.

The complete itinerary and rates from New York or Newark, N. J., and Philadelphia are as follows. Rates and schedules from any other points desired will be furnished on request.

Reservations for the Eastern Regulars' trip should be made at the earliest possible moment. Address, James T. Keegan, Superintendent, Salvage Corps, 227 Washington Street, Newark, N. J.

Official Itinerary "Eastern Regulars" International Association of Fire Chiefs

Going

Saturday, October 16

Lv. New York City, (Penn. Sta.) .... 6:45 P.M. L.V.R.R.
Lv. Newark (Penn. Sta.) .... 7:00 P.M. L.V.R.R.
Lv. South Plainfield.. 7.29 P.M. L.V.R.R.
Lv. Bound Brook.... 7:38 P.M. L.V.R.R.
Lv. Flemington Jct... 8:00 P.M. L.V.R.R.
Lv. Easton, Pa..... 8:35 P.M. L.V.R.R.
Lv. Philadelphia (Reading Terminal)... 6:45 P. M. Reading R.R.
Lv. Bethlehem ..... 8:59 P.M. L.V.R.R.
Lv. Wilkes Barre ...11:20 P.M. L.V.R.R.

Members will again gather in the CLUB CAR and reminisce of trips and happenings and enjoy the good fellowship of friends meeting once again.

The night ride over the scenic route of the Lehigh Valley will only be marked by the bright lights dotted here and there, and often by emblazoned valleys that spread out from the car windows like clusters of brilliant diamonds.

Sunday, October 17

Ar. Buffalo (Main & Scott Sts.).... 5:00 A.M. L.V.R.R.

Arranements made for those members desiring to attend Church services.

Lv. Buffalo (Central Terminal) ... 8:25 A.M. N.Y.C. Lines

Our train skirts the lower shores of Lake Erie for nearly 200 miles.

Lv. Cleveland (Union Terminal)... 12:15 Noon, N.Y.C. Lines

Pass through the lower parts of Ohio, Indiana and Illinois during the afternoon.

Breakfast, luncheon and dinner in Dining Car.

(Here we gladly welcome the Great Lakes members who join the party.)

Monday, October 18

Breakfast and luncheon in Dining Car.

During the morning we pass through some of the larger Oil Fields of Oklahoma.

Ar. Oklahoma City.12:59 P.M. Frisco Lines

Members of party and baggage will be transfered to the Oklahoma-Biltmore Hotel—Convention Headquarters—where rooms with twin beds and bath will be assigned.

During the afternoon members can register, meet old friends from various parts of the country, etc.

Tuesday, Oct. 19
Wednesday, Oct. 20
Thursday, Oct. 21
Friday, Oct. 22
} **Attending International Convention**

Returning

Friday, October 22

At 4:00 P.M. members of the EASTERN REGULARS party will be transferred from the hotel to the station. All baggage to be ready for transfer to station at 1:00 P.M.

Lv. Oklahoma City 4:50 P.M. Frisco Lines

Evening dinner in Dining Car.

Saturday, October 23

Breakfast in Dining Car.

Ar. St. Louis..... 8:10 A.M. Frisco Lines

A short stop is made at St. Louis.

Lv. St. Louis..... 9:25 A.M. N.Y.C. Lines

Luncheon and dinner in Dining Car.

Ar. Cleveland ... 8:30 P.M. N.Y.C. Lines
Ar. Buffalo .....11:30 P.M. N.Y.C. Lines

Sunday, October 24

Breakfast in Dining Car.

Ar. Bethlehem ..... 7:17 A.M. L.V.R.R.
Ar. Philadelphia (Reading Term.) 9:20 A.M. Reading R.R.
Ar. Easton ..... 7:41 A.M. L.V.R.R.
Ar. South Plainfield. 8:40 A.M. L.V.R.R.
Ar. Newark (Penn. Sta.) .... 9:13 A.M. L.V.R.R.
Ar. New York City (Penn. Sta.) 9:30 A.M. L.V.R.R.

Cost of Trip—Per Person

The cost of the entire trip shown below includes round trip transportation, Pullman space as specified (Compartment or Drawing Room to be occupied by two persons), all meals enroute, round trip transfer of members and baggage between station and hotel at Oklahoma City, rooms with twin beds and bath at Oklahoma-Biltmore Hotel—Convention Headquarters and all tips while enroute only. Meals while at Oklahoma City are not included.

	New York or Newark	Philadelphia
Lower Berth	$127.25	$121.00
Upper Berth	122.75	116.75
Compartment (two persons) — each...	136.75	130.00
Drawing Room (two persons) — each...	144.75	137.25

Members desiring single rooms at Hotel, rate, will be $2.00 in addition to that shown above.

Banquet to Chief Randlette, Richmond, Me.

Chief Joseph W. Randlette, who was elected President of the New England Association of Fire Chiefs at its recent convention, was tendered a banquet by the Richmond, Me., Fire Department,

Chief Joseph W. Randlette

of which he is the head, on the evening of July 16. The event took place at Enterprise Grange Hall, Richmond, with an attendance of over ninety.

Among the out-of-town officials present were Chief and Mrs. Allen F. Payson, Camden; Chief and Mrs. Scott Morse, Bath, and Chief Oliver T. Sanborn, Portland.

After the dinner, the party adjourned to a raised platform outside of the hall, and with Dr. V. R. E. Cary as master-of-ceremonies, addresses were made by the visiting Chiefs. Chief Payson, at the close of his remarks, presented Chief Randlette with a check for $100, as a testimonial of the regard in which the Chief is regarded by the men of his command.

There was dancing at the close of the ceremonies in the Grange Hall.

Chief F. J. Scholler Resigns

Chief Frank J. Scholler, Port Huron, Mich., is to be pensioned. He had served in the Fire Department for the last thirty-five years and has been an employee of the city for forty-six years.

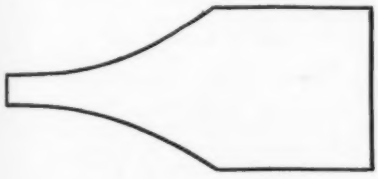
Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Nozzle Performances

To the Editor:

Would you kindly give your opinion on the following question? A. contends that a branch pipe tip, illustrated below, is more effective and would give a more solid stream than the conventional type. A. claims that eddy currents are set up in the process of gradual reduction of the



area of the stream in the convention type branch.

B. argues that in A's branchpipe back-pressure would be set up.

W. R. M.

Answer: It is the writer's belief that the type of branch pipe illustrated, having a rapidly converging cross-section, would produce a stream with more spray and less range than one of the conventional type. In the very elaborate series of experiments carried on by John R. Freeman, wherein nozzles of all different types were employed, he found that where there was a rapid reduction in the cross-section area of the nozzle, more spray and less range resulted.

The conventional type of nozzle as found today gives just about as satisfactory a stream as any nozzle can be expected to give.

Turret Pipe Connections

To the Editor:

In late issues of FIRE ENGINEERING we have noted that pumping engines were purchased by the New York Fire Department. We are interested in the turret nozzle mounted on the pump proper.

How is this piece of equipment operated in reference to turret nozzle equipment? We would appreciate it very much if you will answer the following questions:

Is this turret nozzle operated with pump taking suction at hydrant?

Is the turret operated with 3 or 3½-inch hose as a supply line to pumper from hydrant, or is this turret nozzle operated by pumpers supplying water from hydrant, assuming that pumper equipped with turret nozzle mounted on the pump is located at the fire?

If pumper is supplied with lines laid from hydrant, is this scheme carried out in connection with high pressure system and domestic system?

G. S. L.

Answer: The turret nozzle on the pumpers recently installed in the New York Fire Department are equipped with what the department calls the Spencer Connection, named for Deputy Chief Spencer, in charge of the Borough of Richmond.

This is a direct lead from the pump on this machine to the turret pipe, so that the turret nozzle is directly connected to the pump and water from the fire pump can be discharged through this turret nozzle without any outside connection with the pump, taking water from any source of supply, river or hydrant. There is a large valve in this water way between the pump and the deck nozzle, so that the deck nozzle can be shut off when the pump is being used to discharge water through the conventional discharge gates through the hose lines.

This deck nozzle is also equipped with a conventional siamese connection. the siamese on either side of the machine leading directly into the deck pipe; this siamese being equipped with clapper valves, so that the water from any source of supply, either from other pumpers or from a high pressure or low pressure hydrant, can be led by means of hose lines directly into this turret nozzle siamese connection.

Practically all companies in the downtown section of New York carry 3-inch hose, while those in the suburban sections carry 2½-inch.

Static and Gravity Pressure

To the Editor:

Would you please advise me if "static" and "gravity" pressure is the same. If not what is the difference?

In order to have "static" pressure at the base of a standpipe riser, must the cover of the gravity tank supplying same be "on," or "off," or does it make any difference?

A vessel 10 x 10 x 10 feet, is filled with water. Where is the greatest pressure exerted? Is the pressure equal in all directions?

Thanking you. G. P.

Answer: Static and gravity pressure are used interchangeably. In either case it represents the same thing, the pressure caused by the depth of water above the point at which the readings are being taken. Static refers to pressure of a fluid at rest. Gravity pressure must also be considered as pressure of fluid when not in motion. Hence the two terms are identical in meaning.

If tank were air tight, with cover on, the cover should be removed to permit maximum static pressure.

A vessel 10 x 10 x 10 feet, filled with water, would have the greatest pressure at the bottom. However, at any point on the bottom the pressure horizontally in any direction would be precisely the same as that downward. At any point in a fluid at rest, pressure is the same in all directions.

Water Hammer, etc.

To the Editor:

Is there an illustrated chart or pamphlet published by the New York Fire Department describing the various tools and appliances in use in the department and if so where could I obtain one?

What is the formula for figuring discharge from Bresnan distributing nozzle, 6 openings ½-inch and 3 openings ⅝-inch?

What is "water hammer" and how can it be prevented?

What are the operations for raising an Ahrens-Fox aerial ladder?

W. J. M.

Answer: The New York Fire Department does not issue an illustrated chart or pamphlet showing the various tools and appliances used. However, such a chart has been prepared by William E. Patterson, Secretary, Fire Department, Pittsburgh, Pa. If you will drop him a line, he will let you know how much it costs for a copy of the chart.

There is no formula for finding discharge from a Bresnan distributing nozzle. Were the rotating parts stationary, calculating the discharge would be simple. On the other hand, when it is rotating, the discharge will depend largely upon the velocity of rotation. The faster the nozzle spins, the smaller will be the discharge, though it does not decrease very greatly.

For figuring how much water a Bresnan nozzle will require, the surest method is to calculate the discharge from the various openings and add the results so secured. This will give you a figure larger than the actual discharge, but you will be on the safe side.

Water hammer is the striking, or impact of water in a closed container against the walls of the container where no air is present. As an example might

be cited the sudden shutting off of a hydrant which is flowing. By shutting off the hydrant quickly, the flow of water is suddenly arrested, and water being practically incompressible, a blow, or hammer, is created against the pipes containing the water.

The most satisfactory way of preventing water hammer is to gradually close all openings through which water is flowing. In the case of fire pumps where water hammer might do damage, an air dome is provided. This air dome is largely filled with air and when a nozzle is quickly closed, the air acts as a cushion to absorb the shock of the hammer.

With regard to instructions for raising an Ahrens-Fox aerial ladder, it is suggested that you write to the Ahrens-Fox Fire Engine Company, Cincinnati, Ohio.

NATIONAL FIRE FIGHTERS TOURNAMENT TO BE HELD AT CHICAGO IN SEPTEMBER

Volunteer and Paid Departments Invited to Compete in Contests to be Held in September—Hotels and Meals Provided by City

By Robert Greenock

MORE than one hundred professional and volunteer Fire Departments are expected to compete in the first National Fire Fighters Tournament to be held Labor Day week-end in Soldier Field, Chicago, as a feature of the Chicago Charter Jubilee.

Volunteer departments will compete on Sunday, September 5, and professional departments on Labor Day, September 6. A total of $2,750 in cash prizes will be awarded. The Chicago Board of Underwriters will present $1,000 in cash to the winner of the all event class among the professional departments and $500 to the best all-around volunteer department.

Special Cash Awards

In addition, the Chicago Charter Jubilee will make special cash awards of $100 to the winners in each of the nine professional department events, and $50 in cash to the winning team in each of the five volunteer events. A Mayor Edward J. Kelly trophy will be also awarded for permanent possession to the winning teams in both the professional and volunteer all-around classes. Medals will be presented to the members of the two trophy teams.

Teams of entrants in the professional class will consist of eight men and in the volunteer class, six men, including officers. Entrants have the choice of bringing their own equipment or using that of the Chicago Fire Department. All equipment loaned by the Chicago department will be of the latest design and will be uniform in each instance. If entrants choose to bring their own equipment, it will be adequately housed and protected.

The Chicago Charter Jubilee will act as host to all entrants.

It will, at its own expense for the three-day period, September 4 to 6, provide first class hotel accommodations, meals and a full round of real Chicago entertainment. The only expense to entrants will be their transportation costs to and from Chicago.

Fire Commissioner Michael J. Corrigan, who, together with Mayor Kelly, originated the tournament idea, says:

"I think that all contending teams should come to Chicago at least twenty-four hours before the actual contests in order to familiarize themselves with all conditions, including equipment to be used. The first event will start at 10 a. m. on each of the two days. While precedent indicates the best of weather for the Tournament, provision has been made to carry the program over one day in case of inclement conditions.

"Through FIRE ENGINEERING, the Chicago Fire Department extends an invitation to all volunteer and professional Fire Departments to enter the tournament. All competitors must have their entries on file not later than Monday night, August 23."

The Chicago Charter Jubilee reserves the right to accept entries as submitted. In each case the names and rank of each member of each team must accompany the entry. Alternates may be named but expenses will be paid for contestants only.

Events that the professional departments will compete in are: fire alarm "turnout," charging fire lines, scaling walls, life net drill, raising ladders, sliding rope contest, bringing hose to roof, salvage drill and first aid test.

Volunteers will compete in: fire alarm "turnout," charging fire lines, scaling walls, raising ladders and sliding rope contest.

As a special contest for those departments that choose to compete there will be staged a "water fight" with a prize of $100 in cash for the winners. The final two contestants will be determined by competition, the opposing teams to be matched by lot.

While special prizes will be awarded in each individual event, points to count for the major prize in both the professional and volunteer classes will be decided on a basis of five points for first place, three for second and two for third.

The Judges' Committee

The Judges' Committee will consist of L. A. Provine, Director, Fire College, University of Illinois; Sherman V. Coultas, Fire Marshal, State of Illinois; Robert J. Bogan, Fire Chief, Baton Rouge, La.; John J. O'Brien, Fire Marshal, State of Indiana; Ray W. Alsip, Secretary, Illinois Fire Marshal's Association.

Commissioner Corrigan is Honorary Chairman of the Tournament Committee while R. M. Cunningham is Chairman of the special committee set up by the Chicago Board of Underwriters.

Working under Commissioner Corrigan is a sub-committee appointed to select the official Chicago Fire Department team. The sub-committee consists of Second Deputy Chief Fire Marshal Joseph Mackey, Director of Fire Instruction John J. Touhey, Department Inspector Edward F. Green and Division Fire Marshal George E. Graves, head of the Fire Prevention Bureau.

At the present time 480 Chicago firemen are in the midst of a competitive training course to determine the 180 that will be selected to put on a special military drill.

A four-story wall, constructed of wood, with openings at each story-level to represent windows will be erected in the middle of the field.

For details regarding the rules of the contest, address Harry M. O'Rourke, Chicago's Charter Jubilee, 33 N. La Salle St., Chicago, Ill. A mimeographed set of rules has been prepared for the contestants.

Texas Holds Fire School

The eighth annual Texas Fire School was held at the A & M College, College Station, Texas, July 19 to 23. The school was in charge of Prof. H. R. Brayton. The school was held under the auspices of the State Firemen's and Fire Marshal's Association of Texas, and was conducted by the college's Department of Chemistry and Chemical Engineering. Two courses were given, a general course and an advanced course.

The students were given practical instruction in the use of ladders, pumps, hose lines, salvage work, fire streams and tests, control of fire fighting, inspection and fire prevention, hose layouts, water systems and supply, small tools, fire department safety, American Red Cross course in first aid, instructor training, etc. All men on the general course were given work in first aid, but for those who wished to specialize in first aid, two special courses were given.

Minnesota Firemen Meet

The sixty-fifth annual convention of the Minnesota State Fire Department Association was held at Crookston, Minn.

Among the resolutions passed were ones urging the defeat of action which would collect iron ore taxes and reallocate the funds throughout the state; the defeat of action to change the firemen's civil service laws; legislation to force insurance companies to segregate and properly allot two per cent tax on fire insurance policies to the proper fire departments, and a resolution commending the work of Chief Ross Schmidt, Crookston, the retiring President.

Over 2,500 firemen were in the city for the three-day convention.

John Thompson, Waden, was elected President; George Fish, Sauk Center, First Vice-President; Nels Fuist, Virginia, Second Vice-President; Fred Pfaender, New Ulm, Secretary; P. Pederson, Moorhead, Treasurer.

The 1938 convention will be held at Waden and the 1939 gathering at Sauk Center.

Our inquiring reporter overhauls the firemanic news of the day.

Blast It All—Anyway!

Nick Sportini, a blasting sub-contractor, working on foundations of a new home in Fairfield (Conn.), became annoyed when a stick of dynamite failed to dislodge a large tree stump. He placed 18 sticks under the stump, covered it with railroad ties, touched it off. Resulting blast showered houses within half a mile radius with parts of stump, and ties. . . . busted windows, tore holes in roofs and whathaveyou. Sportini was arrested!

Who Planted the Fire Bell?

Down in Center (Tex.) they've just dug up the old fire bell, installed 33 years ago, from the flower bed of a residence. Bell has been restored to front of City Hall from whence it has been missing since 1915. We rise to ask, what have they been doing all these yars and yars for alarm signals?

Speaking of Signals—Here's a Signal Failure

Indirectly to blame upon the Fourth of July, was fire in Cloudcroft (N.M.) where four buildings burned in this little mountain resort because residents mistook the customary alarm for firecrackers. Seems that the fire alarm in Cloudcroft is three pistol shots. It must have the firemen jittery in a shootin' affray!!

Comedy of Errors?

In Edison (Wash.) Ed Wood's house caught fire. The Edison Vol. F.D. lost its nozzle and was *hors de combat*. The Burlington F.D. arrived and went to work, but a truck ran over its line and ruined it. Then the Sedro-Wooley (that's the name of a town—honest it is) fire truck broke down on its way to render aid. Finally, the Mount Vernon F.D. came from 15 miles away only to find house had burned to ground. Beat this if you can!

Sour Milk Extinguisher

Firemen of Brattleboro (Vt.) report that a New York tourist doused out a fire on the main bridge to Hinsdale (N. H.) by using the only liquid available in his car—a quart of sour milk. The fire, under the planking, might have destroyed the bridge, firemen say, if it had continued unnoticed much longer.

The War's the Cause of It

With the world gone munitions-mad, hazards from explosion and fire increase. Here are some latest reprts:

TOKIO: News agencies report 110 Chinese girl workers killed in an explosion and more than 300 injured, in Chinese powder factory in Szechuan Province.

BUENOS AIRES: Six persons were killed, one wounded, when powder magazine exploded.

LONDON: Nine persons, mostly women, standing in a bread line at Valla-nueva de Cordoba, Spain, were killed in a powder-magazine explosion. Excessive heat believed cause.

BELGRADE: In an explosion of 55,000 pounds of gunpowder in village of Stragari, one person was killed, 40 injured. Blast left hole 40 feet deep in ground and threw people out of bed over two miles distant.

News Flashes:

An explosion turned the Glendora Coal Company's Baker mine (Sullivan, Ind.) into inferno, hurling 20 miners to death against rough walls of shaft. . . . John J. McElligott, Fire Commissioner-Chief, N. Y. F. D., reported his department using all of its 2,000 street sprinklers during July hot spell to reduce infant mortality in crowded sections. . . . While hundreds watched, Mrs. Bertha Johnson, aged 56, leaped from fourth story of Broadway apartment, just as firemen from nearby truck company were spreading life net. She died in hospital. . . . When watchman aboard tanker at Hoboken (N. J.) pier accidentally lighted a red flare, it caused concentration of fire apparatus from two cities. . . . Heat caused explosion in shipping plant of Celutone Corporation, North Arlington (N. J.), which was loaded with sheets of cellulose compound. Walls and roof blown out. Kearny and N. Arlington F. D.'s had to stand about and watch materials burn. . . . When Frank Metzger, aged 29, phoned Brooklyn (N. Y.) fire headquarters a "phony" alarm he was held in $100 bail. That oughta be the *minimum* penalty! . . . To make sure of death Emma Saville, aged 45, Baltimore (Md.) put three bullets in chest, set dress on fire, opened all jets in kitchen stove. Yes, she died. . . . When a cry of "fight" was misunderstood to mean "fire," 200 patrons of Orient Theatre, New York City, stampeded in rush for exits, injuring ten negroes. If it hadn't been for "panic-bars" fatalities might have been great. . . . Police of Rotterdam (N. Y.) seek thief who stole 700 sticks of dynamite from a fireworks manufacturer. Residents of neighborhood are jittery! . . . William Steiglemeyer, aged 70, retired captain in Indianapolis (Ind.) F. D., was killed and his son Lawrence, aged 29, seriously injured in auto crash. . . . The Knickerbocker Steamer Company, claiming to be one of oldest volunteer fire companies in America, celebrated its 125th anniversary with three day celebration. . . . In parade of New Jersey-New York Firemen's Association, 50 firemen and lesser number of women's auxiliaries were overcome and felled by the heat, at Pearl River (N. J.). Upwards of 6,000 men and 3,000 women marched. Half dozen ambulances kept busy! . . . Vol's of Hose Company 2 of Larchmont F. D., were invited to a "Bestepl." When they arrived found it to be just a good old garden variety beefsteak. . . . When a new bus ran into a tank wagon at a filling station in the Rockaways (N. Y.) collision set bus afire. Had not emergency door opened entire 20 might have been incinerated; instead only two seriously burned—rest were saved. . . . Fire bursting out of a trolley car in Buffalo injured 14, sending four to hospital. . . . Rescue Squad 3, N. Y. F. D., and doctor worked six hours, used six tanks of oxygen in successful effort to bring baby to life in Mt. Eden Maternity Hospital, New York City; just shows it pays not to give up too soon. . . . Small blaze in State Capitol in Albany (N. Y.) put elevators out of commission, gave firemen jitters for awhile. . . . When West New York (N. J.) displayed its newest fire apparatus 2,000 persons looked on, applauded. . . . Commissioner-Chief John J. McElligott, N. Y. F. D., wanted to use boardwalk at Rockaway Beach for quick passage of fire apparatus in getting to blaze, but Queens Borough President Harvey rejected proposal. . . . 26 persons were killed, over 60 injured in derailment of an express train in France; high mortality partly due to wooden cars, which took fire. . . . Another steamer disaster took toll when S.S. City of Baltimore burned in Chesapeake Bay. Three known dead, many missing. . . . Reporting for duty at 6 p.m., fireman Joseph R. O'Keefe, engine 52 (N. Y. F. D.), died suddenly while changing his uniform—heart attack. . . . Flop-house burned on the Bowery (New York City) killed two, injured a score; firemen made great rescues. . . . Engine 316, N. Y. F. D., responding to an alarm on one of hottest days collided with an ice truck (so long as there hadda be a collision, it was nice to have it with a load of ice!). . . . These are the days when the papers are full of accounts of motor boats blowing up and burning. When will boatmen learn to install necessary fire and explosion precautions? . . . While we think of it—cigarette sales are going up—so are buildings (in flames) due to careless smoking. . . . Meanest man is Clarence Hudgins, who poured kerosene over his dog and burned him to death—judge sentenced man to year in chain-gang (Rome, Ga.).

Note to contributors: If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair—if it's suitable it will ultimately find its way into print.

Editor, Watch Desk.

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire fighting, etc. Address "Editor, Watch Desk."

3 Die in Boat Fire

Three persons died and ninety were saved when a Chesapeake Bay liner burned to the waterline near Baltimore, Md. The "City of Baltimore" was sailing for Norfolk the night of July 29. It was about twenty miles south of Baltimore harbor when fire was discovered below. Members of the crew tried to fight it, but could get no water. The flames spread with great rapidity and within five minutes the entire three-deck superstructure of the boat was afire. Captain Brooks turned the boat into the wind to keep the fire away from passengers in the bow of the ship.

Doctor Ogden, a Fire Department Surgeon saw the fire from his summer home and telephoned Chief Travers in Baltimore. The Chief ordered two fireboats, engines 48 and 49, to proceed to the fire. They arrived within forty-five minutes. Other summer residents also observed the fire and set out in every available boat to effect rescues. Several lifeboats had been lowered, but many passengers were forced to jump into the bay. There were plenty of boats on hand however to pull them out.

The Orchard Beach and Riviera Beach Volunteer Fire Departments turned out with their new ambulances. Secretary P. W. Wilkinson ordered seven ambulances of the Baltimore Fire Department to the scene. Later he dispatched No. 2 floodlight. Annapolis sent a rescue truck and an ambulance. The injured were rushed to city hospitals by ambulance and boat.

Burned to the Water's Edge

The two fireboats could do nothing for the burning liner. The entire three deck wood superstructure was swept clean to the steel hull. The boat had been grounded off Bodkin Point and the fireboats remained alongside flooding the hull.

At the probe, Captain Brooks hinted at arson, stating that labor organizers had been making trouble. An empty kerosene can and several bacon rinds were found on the shore off which the fire occurred.

OTIS SMITH

The Hull of "The City of Baltimore" After Fire Had Burnt Away Its Three Decks

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of July, 1937. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending July 31	Loss in Thousands of Dollars
Bellefontaine, Ohio—Clarke's Lakeridge Hotel, Indian Lake, 12 mi. northwest	$ 50
Rockaway Beach, N. Y.—Boardwalk concessions and bungalows	150
Betterton, Md.—Silver Slipper Dance Hall and adj. property	60
Vernon, Tex.—High school bldg. destroyed	70
Hastings-on-Hudson, N. Y.—Public school bldg. on Farragut Ave.	50
Essex, Conn.—Boat yard of Geo. Churchill, North Cove, damaged	50
Bay Springs, Miss.—Planing Mill of Blankenship Lumber Co.	65
Medford, Ore.—Business bldg. owned by Mrs. B. Virgin	65
Fort Wayne, Ind.—Plant of John H. Wilkens Packing Co.	50
Denver, Col.—Bristol Hotel and adj. Larimer St. property	65
Detroit, Mich.—Travelcar Trailer Co. bldg., Eight Mile Rd.	65
North Grafton, Mass.—Washington Company main factory bldgs.	50
Atlanta, Ga.—Bldg. occupied by Barrett Food Products Co.	50
Savannah, Ga.—Plant of Georgia Rosin Products Co., destroyed	50
Little Ferry, N. J.—Warehouse owned by D. J. De Titta	160
Atlantic City, N. J.—Six tanks of Pure Oil Co., destroyed	65
Long Island City, N. Y.—Acme Shellac Products Corp. factory	50
Taft, Cal.—Center Street business property	170
Kansas City, Mo.—Property of Burlington R. R.	80
Toledo, Ohio—First Westminster Presbyterian Church destroyed	65
Durham, N. H.—Agricultural Engineering bldg. of Univ. of New Hampshire	50
Venice, Ill.—Trestle approach to McKinley Bridge of Illinois Terminal R. R.	50
Oakland, Cal.—Warehouse of Montgomery Ward & Co.	80
Sherbourne, N. Y.—E. L. Whitney dept. store and adj. property	50
Bristow, Okla.—Plant of Wicksham Packing Co., destroyed	65
Monticello, Ark.—Administration bldg. of Bottoms Orphanage	50
Burns, Ore.—Welcome Hotel destroyed	200
Stratford, Conn.—Garage and six trucks of Youghhioghenу and Ohio Coal Co.	65
Passaic, N. J.—Five bldgs. on property formerly occupied by Passaic Print Works	50
Benton Heights, N. C.—Plant of J. H. Myers Lumber Co., damaged	65
Modesto, Cal.—Anker Meat Packing Plant destroyed	70
Santa Fe Springs, Cal.—Three oil wells and four storage tanks	50
Worcester, Mass.—First Baptist Church destroyed	250
Wright City, Okla.—Sheds and lumber stock of Dierks Lumber Co.	125
York, Ont.—Plant of Watts Chemical Co., destroyed	50

West Virginia Firemen Meet

Fire prevention, in the opinion of Richard E. Vernor, Manager of the Fire Prevention Department, Western Actuarial Bureau, Chicago, is a matter of salesmanship. He explained this at the annual West Virginia Fire School held at Morgantown, W. Va., July 26 to 29. There were 151 registered for the course or ten more than the previous year.

At a meeting of the West Virginia State Fire Chiefs' Association held on July 28 and 29 at Morgantown, Chief Grey Marsh, Weston, was re-elected President. The men also re-elected Chief Ralph Doolittle, Fairmont, Vice-President, and Chief Roy Lister, Nutter Fork, Secretary-Treasurer.

D. L. McElroy, University Mining Extension Faculty was made an honorary life member of the association. He had served as Director of the Fire School for the past two years following the retirement of Prof. L. V. Carpenter who resigned to join the faculty of New York University.

Fire School Held at Kent, Ohio

The fourth Ohio Regional Fire School and Exposition was held at Lake Brady Park, Kent, Ohio, on June 22 and 23, with a registration of over 1,300. There was also an extensive exhibit of fire department appliances.

Among the speakers and their subjects were the following:

Organization and Welfare—Chas. Sedgwick, Captain, Toledo Fire Department, and Vice-President, Fire Fighters of Ohio, Chairman, Ohio Police and Firemens' Welfare Comm.

Work of the State Fire Marshal's Office—Judge David Ladd Rockwell, Columbus, Ohio.

Firemen's Training Course—R. B. Criswell, Ohio Inspection Bureau, Columbus, Ohio.

Fire Pumps, Relief Valves, Etc.—K. W. Stinson, Prof. of Engineering, Ohio State University.

Fire Prevention—Magic and Fire—Claude Bowden, Underwriters Laboratories, Chicago, Ill.

Welfare and Organization, Fire Department Legislation—Capt. Chas. Sedgwick.

Work of the State Fire Marshal's Office—Judge David Ladd Rockwell, Columbus, Ohio.

Arson—Patrick Barrett, Chief Fire Prevention Bureau, Cleveland, Ohio.

Fire Control, Rescue Squad and Their Many Duties—J. E. Granger, Chief, Cleveland, Ohio.

There were demonstrations of hose layouts, raising ladders, the life gun and its uses, gas masks, combustible gas indicators and alarms, industrial plant fire department equipment, first aid and safety, fire extinguishers, flood lights and lighting, various types of nozzles and a number of other important subjects of fire fighting.

SHOULD THERE BE DRILLS IN SUMMER?

Survey Made of Representative Cities to Find if Departments Curtail or Eliminate Drills When Weather Becomes Very Warm

WITH the exception of the vacationist who dreams of trout streams and camps and mountains and trails, there appears to be a dread of summer days.

It is believed that there should be a letup of work. There are some who put off unimportant tasks until the weather becomes cooler.

In the office, man is not supposed to overwork himself during the summer. But on his day off, the same employee will almost melt away on a tennis court, or outdo himself on the golf course.

According to information supplied by a number of Fire Department officers, drills are continued during the summer months, with the exception of the days when the weather is exceedingly warm. In a few cities, the drills are held in the morning before the sun has had an opportunity to reach its maximum intensity. The replies received appear in accompanying tabulation.

City and State	Chief	Practice Regarding Summer Drills
Newport, R. I.	Joseph S. Lawton	We have monthly drills during the summer months.
Bridgeport, Conn.	Thomas F. Burns	We do not have drill practice during summer months.
Wayne, Pa.	E. J. Clark	We find that we get better response to summer drills than we do in colder weather.
Jacksonville, Fla.	W. Q. Dowling	We continue drill school during summer.
Knoxville, Tenn.	C. M. Johnson	During extremely hot weather we discontinue drill work.
Minneapolis, Minn.	Earl A. Traeger	We discontinue drills at the training school in extremely hot weather.
Pawtucket, R. I.	N. Taupier	Drills are being held weekly throughout the hot weather.
Shreveport, La.	S. J. Flores	We drill early in the morning and late in the afternoon.
Cambridge, Mass.	Herman E. Gutheim	No drills are held in the hot weather.
Pueblo, Col.	L. P. Willis	We drill during the summer months as it is too cold during the winter to do outside drilling.
Ft. Worth, Tex.	S. Ferguson	We drill in the spring and fall.
Duluth, Minn.	John A. Fisher	We usually have no really hot weather, but should it get hot I would dispense with the drilling.
Detroit, Mich.	Walter F. Israel	Close school during months of July and August and during extremely hot weather.
Newburgh, N. Y.	George W. M. Brown	No definite rule. If weather very hot, drill postponed until a later date.
Buffalo, N. Y.	W. R. Castimore	Drill activities are carried on throughout the summer months.
Poughkeepsie, N. Y.	Chris W. Noll	Train all firemen in May and June and paid firemen alone in October. Believe attendance better than in hot weather.
Wilmington, Del.	Wm. J. Lutz	Training school is operated on other than the extra hot weather and the extreme cold days.
New Haven, Conn.	Lawrence E. Reif	We continue company drills at the drill school during the summer months except when the days are too hot.
Syracuse, N. Y.	Edward W. Gieselman	School is open only in the morning during summer. Operations suspended in winter due to climatic conditions.
South Bend, Ind.	William Freeh	Early evening is designated for drills during summer months.
Baton Rouge, La.	Robert A. Bogan	Drill work around drill tower discontinued from July 1 to August 31.
Aurora, Ill.	E. J. Ryan	We have two drills in June, two in July and two in August.
Greenfield, Mass.	H. R. Ferris	Discontinue drills during July and August.
East Orange, N. J.	C. A. McGinley	Training school is usually closed during the hot summer months of July and August.
Aberdeen, S. D.	E. I. Kingsley	We continue our drills during summer season except on hot, scorching days.
Sioux Falls, S. D.	Wm. A. Sloan	I do not favor drilling during the hot hours of the day.
Sparks, Nev.	W. R. Shaber	We discontinue drill and school work through July and August.
New York, N. Y.	J. J. McElligott	We continue drilling throughout the summer.
St. Joseph, Mo.	Leo J. Urbanski	During the extremely hot weather we do not operate our drill school.
Lewiston, Ida.	M. A. Pierstorff	We drill winter and summer. During very cold weather we confine our drills to indoors, round table discussions, etc.
Sioux City, Ia.	Geo. M. Kellogg	We do not continue drill work during warm weather.
Fort Collins, Col.	T. P. Treadwell	We drill from the middle of May until the middle of September.
Abilene, Tex.	J. Ray Roe	Our drill college operates the year round.
Albany, Ga.	D. W. Brosnan	I teach in five state fire schools. All of these schools are held in the summer.
Los Angeles, Cal.	Ralph J. Scott	Drills go on winter and summer as the needs of the department indicate. (Really hot weather is unknown in Los Angeles.—Editor.)
San Francisco, Cal.	C. J. Brennan	There has never been any interruption of drill practice due to hot weather. (San Francisco climate never rises to uncomfortable heights.—Editor.)
Memphis, Tenn.	Irby M. Klinck	During the hot months we specialize in company drills held from early in the morning until about 10 A. M.
Portland, Ore.	Edw. Grenfell	Our drill tower operates during the entire year. We drill inside during bad weather.
West New York, N.J.	Ernest Beckert	During the summer our force is rather low on account of vacations, so we discontinue drill school work.

By William Paul Babcock

"R. S. V. P."

Now don't tell me you boys don't know the meaning of those four letters!

O, well, I suppose I might as well.

They usually appear at the bottom of formal invitations, and they are the abbreviation for "Respondez s'il vous plait," which in fire house english means "please answer," or more politely, please respond to this invitation.

So, here's an invitation to you to answer or comment upon what follows.

Now, if I was the sort of a guy that knows all about salvage work, I wouldn't write this particular story. But being open minded and wanting to know and to pass along what I learn to others, I admit right here I don't know the answer, and I am hoping *you do* and that you'll *come through* with it.

At the New York State Chiefs' meeting in Saratoga Springs, I was talking to two very eminent smoke-eaters and they both said they were using salvage covers measuring 15 x 18 feet. I asked them if they didn't think these were a little heavy, not to mention overlarge, and they insisted that their experience indicated they were just the right size.

I countered with the query "What about volunteer firemen using such heavy covers." "Just the right thing," was their reply.

Having, myself, for 21 years used nothing but 12 x 18-foot covers, and knowing of no outfit in calling distance that does otherwise as a general rule, I thought I might, through this column get some expression of experience and opinion from the westerly portion of the field.

What are you using Chief? Why?

I did a little checking on my own account and found that the lightest weight and best cover now on the market weighs 27 pounds in the 12 x 18-foot size. This material is not offered in 15 x 18-foot size, but is available in 14 x 18, and this size weighs 31 pounds. And by a little figuring I judge that if this material was made into a 15 x 18-foot cover, it would weigh about 34 pounds.

Now, remember this is the *lightest* material now marketed in salvage covers, and as Milt Gross used to say, "I *hesk* you" is it nice to make the boys lug four such babies up several flights of stairs? But for the risk of offending the poor devils whom my distinguished informants command, I'd ask them if they employ men or army mules!

But, after all, as I have said, I don't know, but what I want to know is—

What do you think?

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FLOODLIGHTING OF NIGHT FIRES

To the "Sidewalk Chief," it may seem rather odd that added illumination is required at night fires. It may seem logical that at fires important enough to require added lighting, the illumination will be provided by the fire itself.

But such is not true.

Buildings, fortunately, do not burn on all sides at once. There is always one or more sides of a building that are in darkness. But whether the sides of the structure are illuminated by the fire or not, it is often feasible to attack the blaze from the rear. It is for these dark spots on a fire ground, that the floodlighting units have proven of immense value.

Night illumination also makes it possible for firemen to enter cellars, dark alleys and hallways with some assurance of safety. It facilitates the work of the men in picking up hose after a fire is out, and it reduces the chances of tools and appliances being left on the fire grounds.

In the box on this page is the problem in full that is discussed in this issue. In the box on the following page is the question that will be treated in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Question

A. C. DuRee, Chief, Long Beach, Cal.: We are now using one unit 1,250-watt portable Homelite generator which consists of two 500-watt flood lights, and one 250-watt spot light.

The separate gasoline driven generator which is portable is, in my opinion, far more efficient than the power take-off.

Floodlighting a fire has turned night fires into day fires. We have found that more injuries occur to firemen after the fire is "darkened," so that when the lights are put into use, this has been practically eliminated. Fewer pieces of equipment are lost when the "pick-up" is being made, and also small smouldering fires have been discovered with the use of the lights.

We are anticipating adding one or more units of a type that can be adapted to use for power to a portable police radio in case of an emergency.

W. Q. Dowling, Chief, Jacksonville, Fla.: We are now using Homelite portable machines carried on our service trucks.

I prefer separate driven generators to power take-off for the reason that if a fire starts before dark and large amounts of hose and ladders are used, it is very difficult to get a lighting truck up to the building that is involved. A portable generator and light can be carried to any part of the building where needed and the cost is much less than buying a truck and maintaining it.

Floodlighting is very beneficial in overhauling any big fire. I have several 250 and 500-watt flood and spot lights and I am going to buy more. Spot lights are beneficial in working a fire in smoke; the men can see better where to direct their streams.

E. F. Coop, Chief, Pasadena, Cal.: We use two 2½-k.w. Kohler gasoline driven machines set crosswise on the light and rescue car in a compartment which is accessible from either side. An enclosed switch board is so wired that either engine can be switched on either bank of Crouse-Hinds floodlights, or either engine can be used on both banks of floodlights.

Four Appleton reels, each holding 300 feet of cable, allow for the placing of lights in inaccessible places and also for two portable 300-watt lights for inside work. Power from two Kohler light plants is also available for aspirators, electric saws, fans, etc.

We have had no trouble whatsoever with the separate gasoline driven machines in the past ten years, so naturally we are strongly in favor of this type.

HERE IS THE PROBLEM

What type of floodlight are you now using?

Which type of floodlighting do you prefer: power take-off or separate gasoline driven generator?

In what ways have you found floodlighting helpful?

Do you plan on adding to your present equipment?

We find flood and spot lights exceedingly valuable, and it is a mystery to me how we got along without them in years gone by. Our light and rescue car answers all alarms and is radio equipped. It carries everything that a light and rescue car should carry, and is one of the most valuable pieces of equipment we own. It fills our need perfectly, and we do not need another at present.

A. W. Olsen, Chief, Omaha, Neb.: We are using a 5,000 watt compound wound Westinghouse generator off of a power take-off with Crouse-Hinds floodlights.

I think the power take-off or separate gasoline driven generators are equally good.

Our night fire losses have been cut considerable due to floodlighting. Firemen have been able to reach the seat of fires in basements, sub-basements and buildings with long hallways, and are able to see where they are going instead of groping their way along. The light gives all of us more confidence and we go in further and faster, knowing that with hallways lighted or our exits all lighted—in an emergency we can retreat in a hurry and not get lost.

Lighting the outside of a building involved also speeds up action and helps the men on ladders as well. It also aids the men laying in lines of hose and hooking up large deluge sets, etc.

Locating a drowned victim would be almost impossible without light, as would rescue work and first aid work during a major storm, train or bus wreck at night. As soon as finances permit, we plan on adding more light unit to our equipment.

Irby Klinck, Chief, Memphis, Tenn.: The flood light truck consists of five exterior floodlights and one exterior spot light. One of the floodlights is 2,000 watts, the other four are 1,500 watts each. The spot light is 1,500 watts, developing two million candle power. All of the lights are telescopic. There are fourteen portable lights, four of which are 500-watt, six are 250-watt and four 150-watt. We carry 2,800 feet of extension lines of various lengths, at the end of which are connected three-stage connectors. There is an 11½ k.w. Westinghouse generator, which is driven by a Hercules Power Unit, 28 horsepower.

I prefer a separate gasoline driven generator.

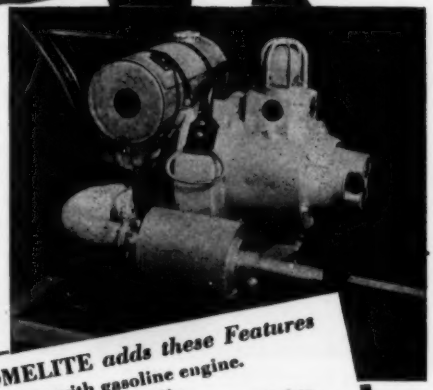
At the scene of a fire, the exterior lights mounted on lighting apparatus furnish lights for manoeuvering apparatus, hooking up pumpers, laying of

Here's Why
HOMELITE Portable Floodlighting
is Used the Country Over . . .

It's no wonder that Homelite floodlighting units are so widely used. For these low cost lighting plants have *all the features*—light weight, quick starting, automatic, dependable operation, large capacity, sturdy construction—that makes them invaluable to the many hundreds of Homelite-equipped fire departments.

Weighing only 89 pounds complete with built-in gasoline engine — a Homelite is easily carried by one man — quickly set up and started instantly right where it's most needed. And it generates 1,250 watts — runs several large floodlights continuously — automatically — even under the toughest conditions.

Moreover, at a small fraction of the cost of a floodlighting truck, a Homelite offers many advantages over larger equipment. In fact, many companies supplement floodlighting trucks with Homelites for the sake of flexibility. Without long cables, a Homelite can be placed in front, in back, or inside a building. For overhaul work it can be left behind without delaying other equipment. When not in use, it rides the running board.



To Low Cost—HOMELITE adds these Features

- **Weighs 89 lbs., complete with gasoline engine.**
- **One man can carry it anywhere—easily.**
- **Generates 1250 watts—enough for several floodlights.**
- **No control board, rheostats or meters to operate.**
- **Starts easily at 20° below zero—or in the rain.**
- **Improved choke design prevents flooding.**
- **Air-cooled engine can't freeze or overheat.**
- **Entire unit is waterproof, dustproof, and oilproof.**
- **Anybody can start it in from five to 15 seconds.**
- **Great dependability—the result of building over 20,000 Homelites.**

Get the complete facts on Homelite floodlighting. Write for bulletin today. No obligation.

HOMELITE CORPORATION
908 Riverdale Avenue
Port Chester, New York

MORE HOMELITES IN FIRE-FIGHTING SERVICE THAN ALL OTHER MAKES COMBINED

LONG ENDURING . .

FIRE FIGHTING QUALITIES

★ Scientifically woven jackets that stand hard wear—construction that minimizes stretch and warpage—tubes of exceptional aging qualities—strength against high pressures—ease of handling—flexibility—easy coiling for storage—these are features that make Republic Fire Hose first choice for municipal use. This hose always makes good when fires must be fought and conquered.

Republic Fire Hose is as safe against mildew rot as science can make it. It is Provar Processed—our exclusive treatment—preventing loss of strength or discoloration from long periods of uninterrupted storage.

REPUBLIC RUBBER DIVISION
LEE RUBBER AND TIRE CORPORATION
YOUNGSTOWN • OHIO

Republic **FIRE HOSE**

Designed from the Fireman's Viewpoint

FIG. 900—SHUT-OFF NOZZLE

FIG. 931—ROTO-RAYS

■ Buckeye fire fighting equipment is a thoroughly practical line, as it was designed from the fireman's viewpoint rather than the manufacturer's.

There is a complete line of Shut-off Nozzles. They *will not leak*. There is a size and type for *any* fire department.

The Buckeye Exhaust Whistle has a piercing, attention-compelling sound. It is easily heard above the roar of traffic.

Roto-Rays, with its three powerful revolving red lights, clears the way for you through even the heaviest traffic. These lights instantly identify a piece of apparatus or emergency car while still many blocks away. They are distinctly different.

The Buckeye Expander is just what the master mechanic has been waiting for. One Expander takes the segments from ¾" to 3", inclusive. Special sets of segments are available for attaching 2½" coupling to 3" hose.

BUCKEYE IRON & BRASS WORKS
324 East Third Street, Dayton, Ohio

BUCKEYE
Shut off Nozzles · Roto-Rays · Whistles

FIG. 937—WARNING WHISTLE

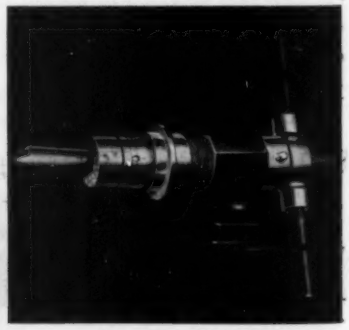


FIG. 926—EXPANDER

the lines, and raising ladders. Portable lights follow lines into the building, light up alleyways and are used extensively in clean up work. When the fire is knocked down, several of these portable lines can be connected to power company lines and the lighting apparatus can return to quarters. Also, we consider floodlighting apparatus a very necessary piece of equipment in rescue work, as in our recent flood emergency. It is used also very extensively during our National Cotton Carnival Week. We are planning to equip our suburban truck companies with Homelite or similar lighting units.

Earl A. Traeger, Chief, Minneapolis, Minn.: We are using portable generators of which we have 11, of from 500 to 2,000 watts capacity. We prefer the separate gasoline driven portable generator. We have found floodlighting very helpful in fire fighting, rescue work, etc. We use our system for lighting up the outside of fires and after it is brought under control, the system is taken inside of the building for overhauling.

We have found that they have increased the efficiency of night fire fighting and that less men have been injured due to the added visibility. At one time we used one of our generators to light up a school auditorium, when a class play was in progress, during failure of the electric light power system here.

W. H. Joynes, Chief, Richmond, Va.: We have a floodlight wagon, equipped with power take-off. We also have a gasoline generator floodlight unit.

I prefer the gasoline unit, because it is more accessible. It is small and compact, easily handled and can be moved with more freedom and speed. We are located here on the falls of the river, and above the falls it is hard to carry any apparatus near enough to the water for the floodlights to be of any service. But with the gasoline generator, we can carry the whole unit to the place it is needed without any trouble. We find the lights very beneficial, both in flood water, and at night fires.

T. M. Lane, Chief, Alameda, Cal.: This department uses portable floodlights, corrugated reflector type and of 1,000 watt power. They are manufactured by the Flood-o-Lite Company, Chicago.

We have a box in which a spool or reel is enclosed with 250 feet of rubber covered cable wound on it. The side of spool has a metal collector ring on inside and cable can be fed out to any distance required. It can also be connected in series to other boxes of which we have several, to provide for great distances.

There is a cable on the outside of the box with connectors attached to the collector rings on inside of box. In operation, this cable is connected to the electric service to the building and operates in the same manner as the chemical hose reel on apparatus. The cable is reeled off as needed.

We find we have plenty of light but there is a certain amount of delay in connecting up, and as you know to be efficient the flood lights should be in operation immediately on arrival at fire. We intend to eliminate this condition this year by installing a generator on our truck companies which will be operated from a power take off, which will make it possible to have light immediately on arrival at fire, or to operate electric driven tools for emergency service.

E. P. Erb, Superintendent, Bureau of Fire, Allentown, Pa.: We are now using portable carbide lights. A pumper equipped with a portable gasoline driven generator, together with four floodlights, is about ready for delivery. Portable flood light units are preferable, unless you have a truck equipped with a floodlight unit, used only for lighting.

Floodlighting is not only helpful, but is very essential. It helps to eliminate accidents and men can use apparatus and equipment to the best advantage. All my recommendations to Council, for fire-fighting equipment, always include adequate floodlight units.

Wm. J. Lutz, Chief, Wilmington, Del.: Each of the four trucks have a prestolight outfit and lights with the 200 feet extension cord. On the squad wagon we carry a 1,250 k.w., Homelite generator. These lights are very effective and important.

Both power take-off or separate gasoline driven generators have their advantages. We like and use both.

We consider them indispensable as a safety factor and in salvage work, drownings and rescue work. Portable generators may be used to supply current to homes, institutions, hospitals, etc., in times of power failure or other emergencies.

Robert Olson, Acting Captain, Merrick, N. J.: The flood lights, in our experiences, have proved to be an indispensable part of our fire equipment, and it would be a great handicap to us without their performance at most of our night fires.

Previous to our acquiring this unit, we have had occasions where men were injured, working in dark places, resulting in their tripping over hose and other objects. The providing of our flood light system has reduced this hazard to a great degree.

We have encountered its usefulness in various instances in rescue work such as aiding the search of a person drowned in our nearby waters, automobile accidents, first aid, etc. The truck, of which this unit is a part, is a combination booster pump, hose wagon and floodlights, with other appliances.

After the laying of hose to be hooked up to our pumping apparatus, in the case of night fires, the floodlights illuminate the scene with a daylight effect which enables the men to carry out their duties advantageously. In the case of incipient fires, when there is no need of the larger hose, owing to its proximity to the fire, we can operate our booster from this truck simultaneously with the lighting unit.

This lighting unit was built according to our own design and specifications were drawn up by one of our men, who is an electrical engineer. It consists of a generator developing 3½ kilowatts. Two stationery lights of 1,500 watts each and two lights (portable) of 250 watts each were plugged in at the sockets on the truck. Two reels of insulated waterproof wires are 150 feet each. A panel board shows the voltage and amperage and there are signal lights for any trouble in the lines.

R. H. Weigand, Chief, Trenton, N. J.: We are now using a separate gasoline driven generator, known as the Kohler plant. We prefer separate gasoline driven generator.

Floodlighting is very helpful when department is overhauling at a fire, also in helping to look for the cause of fire. It is much safer, due to the vapor-proof lighting equipment over the old style open flame carbon lamp. This is true when gases are formed and hang low in the building, the floodlighting gives the necessary protection from explosion by open flame. This department is equipped with two lighting plants on two separate apparatus and we feel, due to the size of the city, at the present time, that they are sufficient to take care of our needs.

L. P. Willis, Chief, Pueblo, Colo.: Sorry to say that our department has not been able to install floodlighting of any description, but should we purchase any I believe I would prefer the gasoline driven generator.

Herman E. Gutheim, Chief, Cambridge, Mass.: We have a floodlight wagon with two Kohler generators, 2,000-watt each, and five cables totalling 2,500 feet of water-proof wire. They have been in service since October, 1928 and have given excellent service. This unit worked in 140 houses in the city of Haverhill, Mass., during the flood of March, 1936. We have found it very helpful at night fires, drownings, accidents and others too numerous to mention.

We prefer the separate gasoline driven generator which can be carried from place to place and can be used with a shorter cable. We hope to be able to purchase new units in the near future. One for our rescue company and one for a ladder company.

H. Steinfurth, Chief, Youngstown, Ohio: We have no special type of floodlights. All our equipment is equipped with large search lights, which can be operated at any angle to throw a direct light in any desired direction. We have extra high powered globes in our search lights and find them very helpful.

We find floodlighting very helpful on tall buildings in business sections and also in residential sections, where large trees obstruct the buildings and surroundings.

Walter F. Israel, Chief, Detroit, Mich.: At the present time we have one small

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Do you perform salvage work in your department?

How many covers have you?

On what apparatus are they carried?

What do you consider the useful life of a cover?

What benefits do you believe result from a department doing salvage work?

Homelite floodlight outfit. It is being used by our water supply bureau, but on multiple alarms at night it is dispatched to the fire.

We prefer a separate gasoline generator, because you have more of them and they are easy to handle inside of buildings.

We have used this "Homelite" outfit (three big lights) on several occasions and find it very satisfactory. I requested four this year in the budget, one for each rescue company, same being denied.

Wm. J. Sands, Chief, Quincy, Mass.: We are using a 120-240 volt, single phase, 60 cycle A.C. remote control Kohler electric plant. I prefer the gasoline driven generator because it is self maintaining and has better voltage regulation.

Floodlighting is almost indispensable for fighting night fires, because the men work more efficiently when they are able to see what they are doing, and it has also cut the number of injuries to members of the department.

The Fire Department of Quincy, Mass., recently placed in operation a new special service truck. It is built on a G.M.C. deluxe chassis, with dual rear wheels and a custom built all steel body. The interior is large enough to be used as an ambulance in an emergency. The truck is equipped with a gasoline driven Kohler electric plant of 5 KVA capacity at 120-240 volt single phase, 60 Kilocycle A.C., and remote control.

Equipment includes eight lights ranging from 100 to 1,000 watts, an acetylene cutting outfit, a portable electric saw, elevator jacks of all sizes, two oxygen masks, two all service masks, a Davis inhalator, insulated wire cutters, rubber gloves, a Voleske bar cutter, two stretchers, a complete first aid kit, a miner's safety lamp, and 1,500 feet of heavy rubber insulated wire.

The accompanying picture shows Mayor Thomas S. Burgin of Quincy, and Chief William J. Sands beside the new truck.

Floodlighting Truck in Service at Quincy, Mass.

J. E. Parrish, Chief, San Diego, Cal.: We have and prefer gasoline driven generator because it is mobile, does not need extra equipment for moving and can be carried with already existing equipment on truck companies, thus saving on salaries and equipment which otherwise might be used.

We found them to be very useful in lighting area at and near fires, thus reducing possibilities of injuries to men because of darkness; they also provide illumination of fire itself. Will add to present equipment as finances permit, eventually having a unit on each truck company.

J. A. Fisher, Chief, Duluth, Minn.: We are now using Oran portable type 400 W., 110 Volt, flood lights and portable gasoline pump attached to generator. We have two large floodlights and five small globes on long cords.

We prefer separate gasoline, because they are more convenient for moving and independent of apparatus. We have found floodlighting helpful in fighting fires, overhauling, and rescue work. Following a fire, the current is usually off in adjacent vicinity and floodlights are very essential. Our mechanic is now working on developing a new type of floodlight to add to our present equipment. Floodlighting is essential to a modern Fire Department.

F. W. Donnelly, Acting Chief, Lincoln, Neb.: We do not have floodlighting of any type, but for our department I would prefer gasoline driven generator. Two of the three light units I believe will provide sufficient light for the ordinary fire. Fires involving an extremely large area would be difficult to properly illuminate with any type of floodlighting equipment.

We anticipate the purchase of floodlighting equipment in the near future.

Wm. Freeh, Chief, So. Bend, Ind.: At the present time our floodlighting equipment is composed of a Homelite gasoline driven generator with two 500 watt and one 250 watt lamps. If the splendid results that we have already received from our lighting system during the brief period it has been included in our fire fighting facilities is any indication of its value, then this modern method of rendering assistance to the firemen should be regarded as an intrinsical part of all Fire Department equipment.

Joseph N. Sullivan, Chief, Utica, N. Y.: We have a light wagon, powered by a 2 kw generator with two stationary and two portable 500 watt lights. Also a portable generator with two 500-watt lights. We have no preference between the power take-off and the gasoline driven generator. Both are successful units.

Floodlighting of the fire grounds at night makes for faster work and gives the men more confidence. It is such an advance in fire fighting that I cannot see how any department could get along without it. Just as soon as money is available, we intend to have more floodlighting equipment.

H. C. Root, Chief, Springfield, Mass.: We have Homelite separate portable units. We have two units and use them mostly when cleaning up, but have used them a few times on an all night junk and storehouse building fires.

Wm. G. Lutkey, Chief, Oakland, Cal.: At the present time we are building in our own shop a flood light apparatus. That is to say, we have purchased a Kohler generator, flood lights, etc., and are mounting them on a truck chassis. I prefer the gasoline driven generator.

C. M. Johnson, Chief, Knoxville, Tenn.: We use the gasoline driven generator for floodlights. We also use our generator to run saws which we use in cutting holes in floors and wherever necessary. We prefer the gasoline driven generator to the power take-off type.

H. J. Brown, Chief, Reading, Pa.: The Reading Fire Department is getting a new service truck fully equipped and among its most important equipment will be a floodlighting plant.

Geo. Boughner, Fire Marshal, Grand Rapids, Mich.: We have none except search lights on appartus and one portable unit on each truck acetylene and electric. I have seen many demonstrations and I am particularly impressed with the portable gasoline driven generator. Every department should be equipped with a floodlighting system (ours included) but it has been a problem to obtain finances for some time to add this unit to the department. I am hoping this year to place some units in our department.

J. L. McLane, Chief, Charleston, W. Va.: We do not have floodlighting at present. From what I understand I prefer a gasoline driven generator. I am interested in floodlighting and hope to add it to my department in the near future.

Fred Washburn, Chief, Auburn, N. Y.: We have no floodlights in our department, as the local lighting company cooperates with us in the event of a serious night fire by running temporary lines and installing floodlights where needed. No charge is made for this service. Work is faster and less danger of injuries to men, where the fire scene is well lighted. Would prefer separate gasoline driven generator.

Edw. F. Dahill, Chief, New Bedford, Mass.: Since 1917 we have been using 250-watt floodlights. We prefer power take-off from four battery operated electric aerial trucks. We have found floodlights valuable at night fires and use them very often.

E. Geiselman, Chief, Syracuse, N. Y.: We have two 750-watt Crouse-Hinds and four 250-watt portable C.H. units. We prefer the separate gasoline

FREE TO FIRE CHIEFS

Fire chiefs who are seeking increased appropriations for more fire alarm boxes or fire fighting equipment may help their cause by furnishing the Mayor of their city a copy of

"INFLATION AND FIRE CHIEFS"

by ROGER W. BABSON as it appeared in FIRE ENGINEERING for February, 1937. Copies will be sent free to any chief who writes:

BABSON'S STATISTICAL ORGANIZATION, INC.
By ROGER W. BABSON, *President*
Babson Park, Mass.

AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

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C. G. BRAXMAR CO., 242 West 55th Street, New York

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Standard for Over Fifty Years

The FEDERAL '77' DOUBLETONE SIREN

with the Red Flashing Light

CUTS THRU ALL OTHER NOISES

SPECIFY FEDERAL "77" SIREN

Built Chockful of Action for its Size. Rugged in Construction to withstand abuse on busy piece of equipment.

1. Newest innovation a two-tone blast.
2. Large red flashing light.
3. Long rolling action after current is cut off more than two minutes—that saves your battery.
4. Electric Brake—touch of button stops roar instantly.
5. Economical, Streamlined, Precision Built. Absolutely a new siren.

Write for New Bulletin No. 56

FEDERAL ELECTRIC COMPANY
8702 South State St. Chicago, Ill.

LUX PUTS OUT THE TOUGH ONES

Despite high wind, LUX extinguisher snuffs out this tricky blaze in double-quick time.

★

A flaming "waterfall" of gasoline is easy for LUX to handle.

★

Use LUX for tank - truck fires. It is sure death to any blaze.

The LUX extinguishers on your trucks are more than a match for the most difficult fires. LUX snow-and-gas gets them out with split-second speed. For a quick, clean job, LUX is your best bet.

Walter Kidde & Company

110 West St., Bloomfield, N. J.

REDUCE WATER DAMAGE & INSURANCE RATES,

Shuredry SALVAGE COVERS

100% Protection with Shuredry Salvage Covers

Read what Chief Powell says:

. . . At a recent house fire of 14 rooms where the entire roof was burned off, with a $1,500.00 loss to house, our Shuredry Salvage Covers gave 100% protection to the bedrooms directly under the fire besides to all other furniture in the home. Not one cent was paid for water damage to contents.

No fire department is complete without a good supply of salvage covers, and firemen trained how to use them properly. We can always depend on our Shuredry salvage covers and are only too glad to recommend them.

Yours very truly,

R. A. POWELL, Chief
Pierre Fire Dept.
Pierre, South Dakota

Fulton Bag & Cotton Mills

Manufacturers Since 1870

ATLANTA ST. LOUIS DALLAS
MINNEAPOLIS BROOKLYN NEW ORLEANS KANSAS CITY, KAN.

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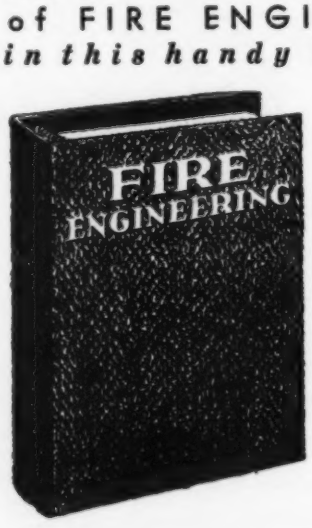

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driven generators. We have found them to be very satisfactory at fires. Men are of much more service fighting fires at night under the lights.

Our lighting truck is used as a Light and Squad company carries the following equipment: one Kohler two kw electric plant, one kit of tools, two 750-watt flood lights, four 250-watt portable lights, two four-way light plugs, two lanterns, 1,100 feet wire on reels, 10 salvage covers 14' x 18', two squeeges, two mops, five brooms, two pails, one mop wringer, one claw hammer, one box nails, one set wheel blocks, one stretcher, two wool blankets, one national first aid kit, two pieces canvas 54 x 80-inch, six triangular bandages, one splint, two rubber tourniquet, one pad for leg splint, one ungentine, one tube eye salve, one Atmos gas mask, two Burrell gas masks, one H.H. inhalator, 150 feet ¾-inch, 150 feet ½-inch, 100 feet sash cord, one Voleska bar and cable cutter, one Foamite, one Pyrene, One Alfite, extinguisher, one axe, one Peerless hose clamp, one shovel, one rip bar, one pick axe, two sprinkler tongs, one U.S. Fire Equipment Company, tannic acid spray.

T. A. Qualey, Chief, Medford, Mass.: We are using Homelite floodlighting equipment. We prefer separate gasoline generator. For night fires to speed up the work and to give the men confidence by showing them the danger spots, floodlighting is invaluable. I have money in my appropriations this year to equip a truck with two 2,000-watt generators and I think that system is better than small units.

R. A. Kelley, Chief, Davenport, Iowa.: Floodlighting has been a great help at night fires when manufacturing plants, warehouses and large business places are affected and especially where electricity is off on account of the fire. We would not be without a floodlighting unit and I believe that in a very short time, a Chief of a Fire Department will order a floodlighting system on his apparatus just as readily as an axe or life net or any other tool or equipment. Floodlighting is also useful after the fire when picking up hose.

Thomas Burns, Chief, Bridgeport, Conn.: We are using Homelite floodlighting equipment and prefer separate gasoline driven generators. Floodlighting equipment is very helpful, especially at night. We plan to add to our present equipment as soon as funds are available.

J. H. Davidson, Chief, Houston, Tex.: I plan the installation of a floodlighting truck next year to be built in my Fire Department shop.

Leo J. Urbanski, Chief, St. Joseph, Mo.: We are now using spot lights mounted on regular fire trucks. We prefer separate gasoline driven generators. The lights increase the efficiency of your men and lessen the danger of accidents.

A. G. Derra, Chief, Schenectady, N. Y.: We now have General Electric 3 kw generators—110 volt d.c. We prefer the power take off generator. We find them very helpful at night fires. In the near future we anticipate installing portable lights operated by gasoline motors.

M. J. Dunphy, Chief, Sacramento, Cal.: We now have S & M Lamps, two 500-watt Floodlights and one 1,000-watt spotlights. We prefer the Kohler, K P Model Electric Plant.

Chas. L. Slade, Chief, Des Moines, Iowa: I am very much sold on separate gasoline driven generator floodlighting equipment. I am a newly appointed Chief and will have the equipment when funds will permit.

J. Frank Van Atta, Chief, Kalamazoo, Mich.: We have Homelite equipment. We prefer separate gasoline driven generator unit. We have found it very helpful when doing salvage work at night, for the placement of ladders, useful in cases of drownings, invaluable at public assembly when power supply is disabled, etc. We plan to add to our present equipment in the future.

I have been a fire fighter for the past twenty-six years and cannot really conceive just how we managed to do as well as we did without the fire ground being lighted as we do now.

George F. Lynch, Acting Chief, Newark, N. J.: We now have stationary and portable lamps. We prefer the power take off generator. We found them useful in lighting fire grounds and buildings, interior and exterior, at night fires.

S. D. O'Conor, Chief, Beaumont, Tex.: We have portable and stationary floodlights mounted on a truck and operated by a separate gasoline driven unit. They are very satisfactory in assisting in fighting fires, salvage work, prevention of accidents and general speeding up of fire fighting and salvage. We plan to add to our present equipment.

Our searchlight truck was built in our own shops and was placed in service in March, 1931. The power unit is a Westinghouse generator 11.5 kw., 125 volt driven by a four-cylinder Hercules engine. The lighting equipment is as follows: four 1,500-watt floodlights, one 2,500-watt floodlight, one 1,500 watt projection light, four 500-watt floodlights and six 250-watt floodlights. This truck has been of inestimable value to us and we consider it one of our most valuable pieces of apparatus. It has been used in many cases outside of Fire Department work, such as storms where the power lines were down, wrecks, and the more recent work was at the New London school explosion at New London, Texas. This truck was driven the 208 miles from Beaumont to the scene of the disaster and was immediately placed in service. It rendered very valuable assistance in lighting up the stricken area.

G. N. Fletcher, Chief, Rochester, N. Y.: We are now using portable floodlights. Separate gasoline driven generator is giving satisfactory results. We have found this equipment valuable in fire fighting and rescue work. As conditions warrant, we plan to add to our present equipment.

L. E. Reif, Chief, New Haven, Conn.: We have Homelite floodlights. The separate gasoline driven generator type is preferred in this department. We have found these units very helpful in illuminating the scene of a fire, in addition to lighting up the interior of a building for overhauling. We have three units carried on our trucks and we expect to ask for three more so as to have one unit on each ladder truck.

H. R. Chase, Chief, Miami, Fla.: We are using a portable lighting outfit made by the Homelite Corp. We have three floodlights with three cables, each 100 feet long. This equipment we carry on the running board of one of our aerial trucks, as we do not have an emergency wagon in service at this time.

A floodlight of any kind is about like any other innovation in a Fire Department. Unless you have one to try, you do not realize its value. We have had our outfit in service about six months and have used it at about fifteen fires. It seems like we could not get along without it now. We find that even when a fire is burning and there would seem to be enough light, the flood lights make it possible for men to get around buildings with less danger of falling over obstructions. After a fire is pretty well killed, it is as a rule pretty hard to get around the interior of a building without some kind of a light, and a floodlight properly placed, makes such work as wetting down or salvage much safer. Now that we have learned the value of proper lights, we would not be without them.

Howard Travers, Chief, Baltimore, Md.: We have two floodlight wagons with gasoline driven generators (Kohler). One generator of 10 kw. capacity, and the other of 1½ kw. capacity, using the maximum number of lights allowable for each generator.

Power take-off is preferable where conditions are favorable, but gasoline generators are necessary in case the power take-off is inaccessible.

Lighting exterior of buildings with large floodlights and interior of buildings with portable lights having a rubber cable attached, are two very helpful uses for this type of equipment. This is of particular advantage in outlying sections where street lamps are scarce. Floodlights have been used with power take-off for special purposes, such as public gatherings, etc.

John Gibson, Chief, Mt. Vernon, N. Y.: We have a Kohler 2 kw. generator which has been in use in this department continously since 1930 and which has given excellent and uninterrupted service. We prefer the gasoline driven generator. Floodlighting has been very helpful in this department, both inside and outside of the building involved. More efficient work is accomplished by the men, for they can see what they are doing. We often wonder how we ever got along without our lighting outfit. Of course what you never had, you never miss, but we would certainly miss our lighting outfit now.

We use our generator for operation of electric saw, electric heating pads and any other electric appliances that are needed in our line of work.

John Gilday, Chief, Hoboken, N. J.: I use both power take-off and separate gasoline driven generator, but I prefer the latter. The reason is that I have a reconditioned wagon that has a 300-gallon centrifugal pump on the front end that we use for washing down. It has three 500-watt floodlights and six 100 watt hand lights for inside work. It carries all the necessary tools for overhauling. It consists of Crouse-Hinds floodlight.

I found the Homelite generator wonderful both inside and outside, also on docks and on ships.

Truro Presented with Ambulance

Mrs. Richard A. Magee, wife of Chief Magee, Truro, Mass., presented the community with a department ambulance which will serve the three communities of Truro, Wellfleet and Provincetown.

The ambulance has a wheel hospital stretcher and two collapsing stretchers.

Ambulance Presented to Truro Fire Department

Showing Stretcher and Equipment in Use

There is space in the car for three patients.

The unit is provided with hot and cold running water, a heating system, an electric fan, and a compact cabinet, which holds surgical and medical appliances. An upholstered folding seat is provided for the doctor or first aid worker. In one corner of the car is a Davis inhalator.

Two men will answer accident calls. Members of the Fire Department are now taking courses in first aid, and the drivers will have to pass exacting tests before they will be permitted to drive the ambulance.

Charles V. Lane, Michigan Fire Marshal, Dead

Charles V. Lane, State Fire Marshal of Michigan, and well known to all fire officials in the state, died at the age of sixty-one as the result of a malignant growth.

His fire career started with the Charlotte Fire Department, where he started as a driver. He held the position of State Fire Marshal under several administrations. He is given credit for the annual fire college held in the state.

On the eve of his death, he received word that he was reelected Secretary-Treasurer of the Michigan State Firemen's Association. This would have marked his third term in that office. Mr. Lane was active in securing legislation to ban the use of fireworks in the state.

Chemical Plant Destroyed

Fire, which originated from an unknown cause, completely destroyed the one story brick mill type plant of the Watt Chemical Company just outside the city limits of Toronto, Ont. The building measured 100 by 175 feet.

The blaze was discovered by an employee at 12:30 p.m., and a telephone alarm was sent to the Mt. Dennis Fire Department. When the men arrived, it was found that the entire plant was in flames. Flying embers covered the district. Calls for additional apparatus were sent to West York, Oakwood, Weston and Toronto.

When two pieces of apparatus and a Chief arrived from Toronto, it was found that embers had started fires on shingle roofs of houses several blocks from the chemical plant.

The large amounts of lime in the plant generated fumes which handicapped the firemen. Fire was fought from three sides, with seven streams of 2½-inch hose. As the hydrants were far apart, long hose stretches had to be made. There were seven pumpers, one hose truck and two ladders at the fire. One piece of apparatus was kept busy extinguishing roof fires. Due to the fire there was a traffic tie-up on Weston Road for about two hours.

JOHN KARL LEE.

Danbury, Conn., Co. Celebrates 50th Anniversary

Independent Hose Company No. 4, of the Danbury, Conn., Fire Department, celebrated its fiftieth anniversary on July 7, with a chicken dinner on the lawn of the company's fire station. Among those present was a charter member of the company, Patrick Durkin.

A feature of the occasion was the presentation by Mayor Cunningham, of Danbury, of a gold badge to Peter Beckerle, former Chief of the Fire Department. The inscription on the badge read, "Retired Chief, Danbury, Conn.," and the figures "54" in the center of the shield, represented the number of years Ex-Chief Beckerle had been identified with the Fire Department.

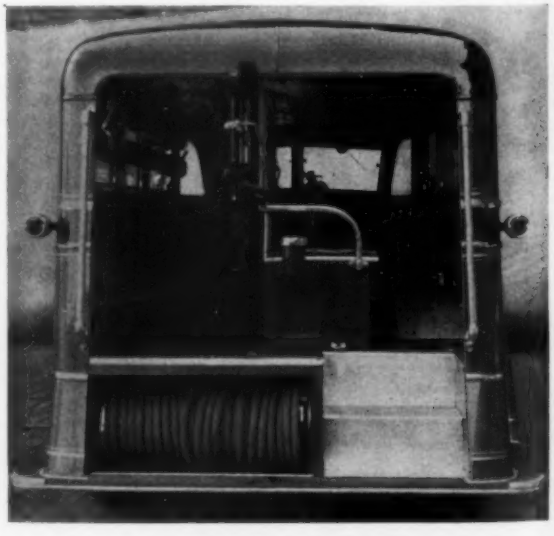
Enclosed Pumper for Takoma Park

A sedan type pumper, carrying a booster tank and ladders, as well as the customary tools and appliances, has been delivered by the Seagrave Corporation to Takoma Park, Md.

The water tank is in the center, with seats on top for the firemen. The ladder, a three-piece 30-foot extension model, is mounted directly over the seat in the center of the body. Two lengths of hard suction are carried inside the body at the left.

Firemen can enter from both the front and rear, making for easy ingress and egress.

On the outside are storage compartments for the various department tools.



Rear View of Pumper Delivered to Takoma Park, Md.

This apparatus has a pump capacity of 600 g.p.m. The body will hold about 1,200 feet of 2½-inch double jacket hose.

Grass, Awning, Roof, Building, Spot Fires Quickly Extinguished with Indians!

We frequently hear of new uses to which INDIAN FIRE PUMPS have been put. The wide adaptability of these extinguishers to different conditions makes them extremely valuable to fire departments. That they use only clear water is an important factor. No regular inspection or attention necessary. Everyone in any way connected with Fire Protection should be thoroughly familiar with INDIAN FIRE PUMPS. Especially effective on Class A fires of wood, paper, cloth.

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CARRIES COMFORTABLY

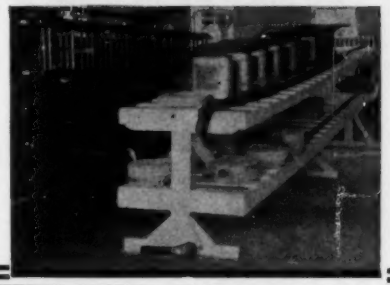
Men with INDIANS accompanying truck to fight large grass fire on Long Island. Carried high on the shoulders like the army pack, the INDIAN tank does not chafe or rub against the hips. Weight is distributed evenly. Adjustable carrying straps.

VENTILATED TANK

Due to special ventilation feature which permits a steady circulation of air between carrier's back and water tank no cold or dampness reaches the back. This is an important factor in preventing colds and sickness.

CARRYING RACK

Showing INDIANS in rack in fire house at Long Lake, N. Y. Truck carrying rack which bolts to running board or floor of truck holds the INDIAN firmly in place. Coil steel spring on strap eliminates shock on rough roads.



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LIN-LINED FIRE HOSE

DEALERS WANTED

The new Lin-Lined Fire Hose is stronger than ordinary hose because it has a rot-proof *linen lining* instead of the old-fashioned rubber lining. Is lighter and handles easier and faster than the old type. Will stand greater pressure and is mildew-proof. Rolls or folds compactly immediately after usage — *without drying!* And Costs Less!

Write for details.

AMERICAN FIRE HOSE COMPANY
SOUTH & 6TH STS., PASSAIC, N. J.

ROSS HOSE VALVES PROTECT MEN and LINES!

30-day FREE Trial Offer. Take advantage of this rare opportunity!

For the best in Hose Valve Value—take Ross! They protect your hose men, lines and apparatus from any shock due to the pump or shutting down of streams! And they maintain any desired pressure (up to 250 lbs.) at the nozzle!

For use on high pressure fire hydrants, standpipes in tall buildings, and on motor-driven fire apparatus. Hose threads to specifications.

ROSS HOSE VALVES

TRY ONE OUT!—NO OBLIGATION!

ROSS VALVE CO., TROY, N. Y.

Please mail me further facts. We'd like to try one out.

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BETTER IN EVERY WAY

The M.S.A. Fireman's Helmet has all the good qualities in the book: strength, light weight, cool comfort, smart good looks! It is highly fracture-resistant, non-conductive to electricity and immune to softening from water, chemicals, perspiration or heat. The wide protecting brim has a reinforced edge, and heavy ribs on the crown add strength against blows. Comfort features include cushioned sweatband, shock-absorbing hammock, self-ventilation. Zippered ear-lugs are quickly attached or removed, and a readily adjusted chinstrap simplifies wearing helmet over gas-mask. ● The M. S. A. Fireman's Helmet is available in standard black or officer's white. We will gladly demonstrate its superior features to any interested Department, without obligation.

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Every Fire Dept. Officer Should Have

These Three Books—*Packed Full of Practical Information*

Questions and Answers for Battalion and Deputy Chiefs

A 210 page book, fully illustrated, by Geo. J. Kuss, former Deputy Chief, New York Fire Department, and Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

A valuable book, not only for candidates for examinations for Battalion and Deputy Chief, but for every member of the department. The only book published which gives detailed methods of operating at large fires and the reasons for each move.

The following are a few of the important topics covered:

Detailed description of the proper procedure in fighting fires: 1. Size-up; 2. Calling of help; 3. Saving of life; 4. Covering exposures; 5. Extinguishing fire; 6. Overhauling. How to test motor fire apparatus. How the following types of fires should be fought: Large department stores, large hotels and rooming houses, large area residential fires, combination stores and apartments, motion picture film exchanges, tall office buildings, wholesale grocery stores and warehouses, group building fires, theatres, schools, factories, etc., and considerable other data.

Price—$2.15, postpaid.

Questions and Answers for Lieutenant and Captain

A 290 page book, fully illustrated, by Geo. J. Kuss, former Deputy Chief, New York Fire Department, and Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

Contains questions asked at promotional examinations in practically every city in the country where civil service examinations are held, with answers.

Includes chapters on Report Writing, How to Answer Examination Questions, Chemistry Examination Questions, Fire Fighting Questions, Overhauling, Ventilation, Fire Prevention, Inspection, Evolutions, Drills, Use of Apparatus, Rescue Work, and in fact all the topics covered by the fire department promotional examinations.

If you are studying for a promotional examination, you need this book, and if you are not studying for examination, this book will nevertheless give you a vast amount of valuable information on up-to-date fire methods.

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Simplified Fire Department Hydraulics

A 200 page book, fully illustrated, by Fred. Shepperd, Managing Editor of FIRE ENGINEERING.

A complete course of instruction in fire department hydraulics. Designed to prepare fire department officers for hydraulic questions in examinations, such as required of all ranks.

Contains over 150 problems in fire department hydraulics asked in examinations in New York, Chicago, Milwaukee, Seattle, Newark, and a score of other large cities.

Treats fully all departments of fire department hydraulics, including pressure calculations, friction loss, engine and nozzle pressures, range of streams, capacities of engines, discharge from nozzles, hydrants, sprinklers, etc., etc.

Price—$2.15, postpaid.

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CORRESPONDENCE

Communication Bureau

To the Editor:

In the June, 1937, issue of FIRE ENGINEERING, C. D. H. of Portland suggested your publication as a means of fire fans to contact one another. I think that this is a good idea.

In my estimation FIRE ENGINEERING is the most complete publication in its field. I especially like your write ups on the various Fire Departments throughout the country and "The Round Table."

Yours,
J. W. O.

* * *

Wants to Form Buff Club

To the Editor:

I should like to have some information on organizing a social club of Honorary Badge Men or "Buffs." I believe there are several organizations of this kind throughout the country. If this information is not available, will you kindly insert a short notice in the next issue of FIRE ENGINEERING telling them to send me this information direct.

I would also like to have an opinion from your readers as to why the "Joker Stand" is called by this name.

In the June issue, C. D. H. wrote on fire pictures. Kindly furnish me with his name and address, as I take quite a few still's and considerable 16 m.m. footage on large fires and accidents, which we put to good use in fire prevention talks before the public.

Yours truly,
W. A. MCDONNELL,
4431a N. 19th St.,
St. Louis, Mo.

* * *

Cause for Poor Attendance

To the Editor:

This letter might be headed "What Price Meetings?"

There is always much ado by some groups about the forthcoming conventions of Chiefs or firemen, especially among the volunteers.

I have attended many of these sessions and while I have gained much valuable knowledge from technical papers read there by competent and experienced men, I wonder if it really pays.

The last two such meetings I went to were so poorly attended in proportion to the area drawn from, that it seemed to me a waste of these able men's time to go there and do their stuff.

And the most extraordinary thing is that the host departments, especially their officers, were *conspicuous by their absence*. One may be pardoned for wondering if this was because they already know too much or just don't care to learn.

I don't know that you can do anything about it, but I just felt it needed to be brought out that for whatever reason, these meetings are not "clicking." And then I thought I'd come right out and ask the question—why?

Yours cordially,
B. P. W.

Emergency Car Combines Pumper and Ambulance

A closed body type of pumper with interesting emergency car and ambulance features has recently been delivered to the Fire Department of Pottsville, Pa., by the Ahrens-Fox Fire Engine Company.

Equipped with a 500-gallon two-stage centrifugal pump, and carrying the usual fire extinguishing appliances of the conventional pumper, the apparatus will perform routine fire duty, while at the same time being used as the department ambulance and assigned to respond to accident and other emergency calls.

The fire-fighting equipment includes a 100 gallon booster tank, with booster hose carried on reel at the rear step, and 2½-inch hose stored under the two lengthwise seats. These seats are hinged and are covered with leather cushions.

As Pottsville is situated in the coal mining area and the department is frequently called for mine rescue work, the equipment of the car includes a full assortment of masks and other appliances used in this kind of work. Two army type folding stretchers are carried suspended from the top of the body, and as a protection to injured persons, and firemen in cold weather, the rear of the car can be closed with a sliding curtain. The car is heated with hot water heaters at the driver's station and in the rear.

Emergency Car of Pottsville, Pa.

Ladder Arrives But Can't Get In

There is one story that has been going the rounds so long in boating circles that the tale has been accepted without any dispute. It is about the fellow who built a boat in the cellar of his house during the winter, and could not get it out in the spring when completed.

The Fire Department of Sudbury, Ont., has a parallel one. When a new aerial ladder was delivered, it was found that there was not very much clearance between the side of the truck and the door of the fire station. As the building was close to the street, if a car was parked on the opposite side, the ladder could not get out.

After the truck finally did get in through the doors, the floor of the station started to sag. Men had to rush to the basement to prop up the floor so that the ladder would not fall through.

Although the department has the aerial, it now has to widen the doors of the fire house, place a new floor and make other changes to accommodate the new arrival.

JOHN KARL LEE.

Dwyer and Pasco Retire

Effective on August 1, Assistant Chief Michael Dwyer and Deputy Chief Dewitt C. Pasco, of the Detroit Fire Department, retired from the service.

Chief Dwyer was appointed on June 1, 1901; was promoted to Lieutenant, July 1, 1915; Captain, October 1, 1918; Battalion Chief, July 1, 1924; Deputy Chief, January 1, 1926, and Assistant Chief on November 1, 1932.

Deputy Chief Pasco was appointed on February 16, 1904; promoted to Lieutenant, October 1, 1916; Captain, July 1, 1920; Battalion Chief, July 1, 1925, and Deputy Chief on April 1, 1932.

3-Alarm Fire Sweeps Frame Buildings

A group of low frame buildings in the Claremont Park section of New York City were destroyed by a three-alarm fire.

Fire was discovered about 10 p.m. in a plant near Webster Avenue. Flames spread to a waste paper building, and before an old watchman at the place could call the Fire Department, the flames had spread to the rear of the plant and to a group of one story wooden buildings. Fire also spread to a number of nearby plants.

Flames were controlled within an hour but traffic was tied up for a much larger time. Motorists were attracted by the bright red in the sky, and by the fact that trolley cars could not get by the fire grounds. It was estimated that 20,000 people watched the fire.

White for Fire Apparatus

The new fire apparatus of Bellaire, Ohio, will be painted white, instead of the conventional red. It is said that red vehicles are becoming so numerous, that the color no longer stands out.

CLASSIFIED ADVERTISING

Bids Wanted, For Sale and Help Wanted $5 per inch. Position Wanted, $2.50 per inch.

For Sale

One used American LaFrance 750 Gal. Pumper. One used American LaFrance City Service Truck City of East Cleveland, Ohio, 14340 Euclid Ave.

For Sale

One American LaFrance, type 75, chemical engine equipped with two 80-gallon chemical tanks; 150' of 1" chemical hose on reel, with shut-off nozzle. Six pneumatic tires, dual on rear. A-1 mechanical condition. For price, etc., write: Edward R. Quinn, Secretary, The Clifton Heights Hose, Hook and Ladder Co., Clifton Heights, Pa.

CONVENTION DATES

Aug. 9-10—IDAHO STATE FIREMEN'S ASSOCIATION. 23rd Annual Convention, Lewiston, Ida. Secretary-Treasurer, George Westcott, Kellogg, Ida.

Aug. 9-12—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. 50th Annual Convention, Greensboro, N. C. Secretary, John Miller, Concord, N. C.

Aug. 10-12—MICHIGAN STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Bancroft House, Saginaw, Mich. Secretary and Chairman, Exhibit Committee, George F. Danbury, Grosse Pointe Farms, Mich.

Aug. 10-12—VIRGINIA STATE FIREMEN'S ASSOCIATION. 51st Annual Convention, Charlottesville, Va. Secretary, O. W. Dabney, Staunton, Va.

Aug. 10-13—VIRGINIA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Charlottesville, Va., with State Firemen's Association. Secretary-Treasurer, E. H. Rouse, Orange, Va.

Aug. 11-12—CUMBERLAND VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 36th Annual Convention, Mechanicsburg, Pa. Secretary, C. L. Jacobs, Waynesboro, Pa.

Aug. 11-14—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 44th Annual Convention, Spokane, Wash. Secretary, Jay W. Stevens, State Fire Marshal of California, Merchants Bldg., San Francisco, Cal.

Aug. 13-14—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 54th Annual Convention, Sterling Theatre, Derby, Conn. Secretary, David W. Harford, 10 Chestnut St., South Norwalk, Conn.

Aug. 15-18—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. 19th Annual Convention, Barnes Hotel, Amsterdam, N. Y. Secretary-Treasurer, Frank A. Emden, 1403 Mather Ave., Utica, N. Y.

Aug. 15-22—NORTH DAKOTA FIRE SCHOOLS. One Day Schools to be held as follows: Mandan, Aug. 15; Minot, Aug. 17; Devils Lake, Aug. 19, and Valley City, Aug. 22. Address, L. R. Nostdal, Supervisor, Fire Schools, Rugby, N. D.

Aug. 17-21—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 65th Annual Convention, Potsdam, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 18-19—MISSOURI ASSOCIATION OF FIRE FIGHTERS. Annual Convention, Springfield, Mo. Secretary-Treasurer, M. J. Mulvoy, 3500 South Grand St., St. Louis, Mo.

Aug. 24-26—DOMINION ASSOCIATION OF FIRE CHIEFS. 29th Annual Convention, Oshawa, Ont., Can. Secretary-Treasurer, Chief James Armstrong, Box 56, Kingston, Ont.

Aug. 30-Sept. 2—NATIONAL MUNICIPAL SIGNAL ASSOCIATION. 42nd Annual Convention, Hotel Statler, Cleveland, Ohio. Secretary-Treasurer, Irvin Shulsinger, 7 East 42nd St., New York City.

Sept. 7-9—MARYLAND FIRE COLLEGE. 8th Annual Fire College, University of Maryland, College Park, Md. Director, Prof. S. S. Steinberg, Dean, Engineering College; Assistant Director, T. W. Venemann, Maryland State Firemen's Association; Secretary, G. F. Pollock, President's Office, University of Maryland.

Sept. 7-9—TENNESSEE FIREMEN'S ASSOCIATION. 7th Annual Convention, Springfield, Tenn. Secretary-Treasurer, Joe J. Martin, Fire Headquarters, Nashville, Tenn.

Sept. 8-9—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 17th Annual Convention, Dover, Del. Secretary, S. H. Carson, Dover; Chairman, Convention Committee, W. W. Pettyjohn, Dover.

Sept. 14-15—IOWA FIREMEN'S ASSOCIATION. 60th Annual Convention, Atlantic, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 15—FIRE CHIEFS' CLUB OF MASSACHUSETTS. Regular Meeting. Secretary, Chief William H. Hill, Belmont, Mass.

Sept. 17-18—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 60th Annual Convention, Atlantic City, N. J. Secretary, Evan F. Benners, 602 Chamber of Commerce Bldg., Newark, N. J.

Sept. 27—TEMISKAMING FIREMEN'S ASSOCIATION. 22nd Annual Convention, Amos, Que. Secretary-Treasurer, F. E. Thompson, Box 686, New Liskaard, Ont.

Sept. 27-30—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 15th Annual Convention, Redding, Cal. Secretary-Treasurer, H. E. Strasser, 3404 32nd St., San Diego, Cal.

October—ARKANSAS STATE FIREMEN'S ASSOCIATION. 16th Annual Convention, Little Rock, Ark. (Exact date to be announced later.) Secretary-Treasurer, H. D. Compton, Little Rock, Ark.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 58th Annual Convention, Philadelphia, Pa. Secretary, Chief Charles E. Clark, Box 217, Wayne, Pa.

Oct. 6-7—ALABAMA STATE FIREMEN'S ASSOCIATION. Second Annual Convention, Montgomery, Ala. (State Fire College to be held just prior to convention.) Secretary-Treasurer, George E. Crosett, Chief Dispatcher, 1916 Sixth Ave., Birmingham, Ala.

Oct. 12-14—ILLINOIS FIREMEN'S ASSOCIATION. 50th (Golden Anniversary) Convention, Danville, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill.

Oct. 19-21—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, North Platte, Neb. Secretary-Treasurer, Louis A. Novak, Box 788, Norfolk, Neb.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 65th Annual Conference. Headquarters, Biltmore Hotel, and Exhibits and Sessions, New Municipal Auditoriums, Oklahoma City, Okla. Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Ave., Yonkers, N. Y.; Chairman, Exhibits, Chief Ray Tiller, Waterloo, Ia.

Oct. 28—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Long Ridge, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

Nov. 24—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Turn-of-River, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

Dec. 22—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Bethel, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

Jan. 26, 1938—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Stamford, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

Manufacturers' Announcements

Death to Fire

Walter Kidde & Co., West Street, Bloomfield, N. J., are distributing a new booklet, "Instant Death to any Fire," which lists design improvements in extinguishers made early in 1937. It describes fire extinguishing equipment that uses carbon dioxide snow and gas.

Oxygen Breathing Apparatus

An illustrated folder has been issued by the Mine Safety Appliances Company, Pittsburgh, Pa., to describe the McCaa two-hour oxygen breathing apparatus. This equipment is said to be widely used by fire departments and public utilities where men must work in oxygen-deficient atmospheres.

Vocolarm System

An eight-page illustrated booklet has been issued by the Gamewell Company, Newton, Mass., to describe the Vocolarm system of fire departmental communications. Telephone communications are amplified by this device so that the messages and fire alarm directions may be heard by more than one fireman. Waltham, Mass., has recently ordered a system with independent circuits from headquarters to each fire station so that there may be two-way communication between fire stations in the city.

Would You Like To Exchange Fire Pictures?

Many Fire Department officers and fire fans have expressed a wish to exchange fire pictures with others in the field. If you would like to participate in this hobby, send your name to the Editor, FIRE ENGINEERING, 24 West 40th Street, New York City, and it will be published along with others as they are received. In this way contact may be established between those who would like to swap fire views.

Arson Squad Urged for Baltimore

An arson squad for Baltimore city was urged by Chief Edward Warr of the Salvage Corps.

The chief spoke at a meeting of the executive committee of the Maryland State Volunteer Firemen's Association, held in Baltimore in July. He also urged passage of a law to create a state fire marshal.

The association announced it would hold the 1938 convention in Baltimore, in conjunction with the Eastern Association of Fire Chiefs which will meet here. Chief B. H. Shipley of Ellicott City is President of the Maryland State group.

OTIS SMITH.

Gilson Heads Oregon Chiefs

M. J. Gilson, Lebanon, was elected President of the Oregon Fire Chiefs' Association at the annual convention held at Medford, June 24-26.

Nearly 250 persons attended the banquet at which Jay Stevens, California Fire Marshal, was the featured speaker.

Chief Roy Elliott, head of the local department and convention host, was praised for the fine manner in which the arrangements were completed.

Besides President Gilson, the new officers are C. T. Lindsey, La Grande, First Vice-President; Harry Hutton, Salem, Second Vice-President; Thomas Coates, Tillamook, Secretary and Irvan Pearson, McMinnville, Treasurer.

The next convention will be held at Pendleton at the time of the annual round-up.

Department and Other Reports Received

Fitchburg, Mass.—Annual report of Fitchburg, Mass., Fire Department; twenty pages.

New Jersey Firemen's Home—Thirty-seventh annual report of the Board of Managers of the New Jersey Firemen's Home; eight pages.

SIMPLEST, MOST EFFICIENT 3-WAY NOZZLE MADE!

"BEST BY TEST"

Invented by a practical fire fighter, Thomas R. Day, Master Mechanic of the Buffalo Fire Department, the DAY VAPOR NOZZLE is admitted by experienced fire chiefs to be the "Best by Test." Only four parts, non-clogging, will not wear, rust or corrode. No lubrication necessary. Adjustable for Vapor, Straight Stream or Shut - Off. Operates on pressures from 40 to 300 lbs. Made in five different sizes. Designed for oil fires, they have proven best on all types of confined fires.

Write for Illustrated Folder and Price List
Dealers' Inquiries Particularly Invited

JOSEPH L. DAY
671 W. Delavan Ave. Buffalo, N. Y.

GENERAL ALARM!

All Companies Out—Come to

OKLAHOMA CITY

For a *sizzling* program that is "all set" by your local committee of the International Association of Fire Chiefs' Convention, October 19th - 22nd. Stuff the *gongs* — cut off the *sirens* and head for the "Oil Capital of the World".

T. J. SETTLES, Manager

Hotel OKLAHOMA
BILTMORE
OKLAHOMA CITY
Affiliated NATIONAL HOTELS

BARTON

FIRE PUMPS

CENTRIFUGAL TYPE

FRONT-MOUNTED

Barton Fire Pumps are recognized the world over as the best and most economical answer to the majority of fire protection problems.

Unlike rotary and piston types, a modern Barton Centrifugal Pump has NO PARTS SUBJECT TO DAMAGE OR EXCESSIVE WEAR when pumping the dirtiest water.

Thus with a Barton you are not limited to pumping from city hydrants. In fact, every day Barton Pumps—automatically primed—are called upon to fight country and suburban fires, delivering huge volumes of water at smashing pressures from ponds, cisterns, rivers, etc.

Any Barton Fire Pump can be completely installed on a standard truck WITHOUT A SINGLE CHASSIS CHANGE. A good mechanic can do the entire mounting job in a few hours—entire expense but a few dollars.

New Edition (No. 4) of Bulletin 75
Contains Valuable Fire Stream Data

Write for your copy today! Learn about these wonderful Barton Pumps—how you can effect BIG SAVINGS and still have the finest fire pumping equipment—UNDERWRITERS' TESTED! Also our copyrighted Fire Stream Data in Bulletin 75 will be found very useful.

AMERICAN-MARSH PUMPS, INC.
BATTLE CREEK, MICHIGAN
PUMPS AND PUMPS ONLY SINCE 1873

No. 466—CHEMICAL EXTINGUISHER
No. 461— ¾" - 1"
No. 446—1¼" - 1½"

AKRON'S LATEST SUCCESS!

NEW Small Hose Nozzles

"Quarter Turn"—from full flow to complete shut-off with *gradual* control in between!

The New, Quarter-Turn rotating control feature has many advantages over the conventional "horseshoe" handle type. Streamlined exterior permits the use of the nozzle under restricted or confined conditions. The streamlined advantage is also carried into the interior design so that practically all friction to water flow is eliminated. The water passage is designed to permit full flow with a minimum of friction. The composition valve seat is of the floating type which closes and seals under water pressure.

Full Details on Request

AKRON BRASS MFG. CO., Inc., Wooster, Ohio

BEFORE THE ALARM SOUNDS

is the time to think of FIRE HOSE

Quaker two-fisted fighting Fire Hose is used all over the United States, from the largest City, to some of the smallest Towns.

Your Company can afford this same protection and should not be without it. Send today for free sample.

QUAKER CITY RUBBER COMPANY

Serving the Public over 50 years

PHILADELPHIA - CHICAGO - NEW YORK - SAN FRANCISCO

The **SEALAND CORPORATION**

FIRE CONTROL PRODUCTS

MOTOR FIRE APPARATUS
WATEROUS PUMPS
GARRISON ALARM SYSTEMS
Automatic — Supervisory — Manual

544 IRANISTAN AVENUE
BRIDGEPORT, CONNECTICUT

SOOT BLAST

Puts out chimney fires

Repeat orders prove its value!

5 minutes and a package of SOOT-BLAST, sprinkled over flames at base of chimney, will put out any chimney fire.

Try a case and see!

$4.50 per case 12-26 oz. packages
100-lb. bags $12.50

THE STEBIS CO., Inc., Minneapolis, Minn.

You'll Feel
A HEAP SAFER
with
COVER'S DUPOR
Two-Sponge
Practical Pocket
Smoke Respirator

$24 Dozen
Sample: $2. postpaid

H. S. COVER
Station A
South Bend, Indiana

Valuable Information

All the manufacturers you will find represented in our advertising pages have interesting and valuable data about their equipment which is yours for the asking. When writing, be sure to mention FIRE ENGINEERING.

New Apparatus Deliveries

Ernest N. Day, Sales Manager, New Jersey Fire Equipment Company, Dunellen, N. J., reports the following sales:

A Pirsch-Dodge 500-gallon pumper was delivered to Monmouth Junction, N. J.; a Pirsch-Stewart 500-gallon pumper is to be delivered to Bound Brook, N. J.; A Pirsch-Diamond 500-gallon pumper was delivered to Lake Parsipanny, N. J.; the Borough of Eatontown has placed an order for a specially built 600-gallon pumper to be delivered in October.

Peter Pirsch and Sons Company, Kenosha, Wis., announces the delivery of a 65-foot intermediate aerial ladder with metal alloy ladder to New Ulm, Minn.; delivery of a 1,000-gallon triple combination pumper to Winston-Salem, N. C., and an 85-foot hydro-mechanical aerial ladder to Winston-Salem, N. C.

Lakewood, Ohio, has placed an order with the American-LaFrance and Foamite Industries for a 1,250-gallon triple combination pumper.

A Correction

In the discussion of the round table question on emergency work by Police or Fire Department by Chief A. W. Olsen, Omaha, Neb., that appeared in the July issue of FIRE ENGINEERING, some words were omitted from his opening paragraph.

The paragraph should read:

"The Fire Department should be responsible for rescue work and rescue truck operation, as we are much more accessible to all parts of the city. Also first aid is and should be, a part of the instruction all firemen receive, and taking care of injured and suffocated firemen at fires *is most important.*"

The words in italics were omitted when this discussion was published.

Baltimore Firemen Have Busy Day

Three large fires in the same section within twelve hours gave Baltimore firemen a stiff workout on July 24. The first started early in the morning when waste oil became ignited in the harbor at Clinton and Boston Streets. Two tugs and a coal barge were damaged and two alarms were sounded.

Later in the morning three buildings of a paint factory just outside the city line went up in a blaze marked by twenty explosions. The fire was discovered by two employees who were blown out through a doorway by the first explosion. City and county firemen were able to save two other buildings of the plant, known as the Intercoastal Paint Corp. A spark is believed to have ignited fluid that was being mixed.

A $100,000 fire, just four hours later, finished the day's heavy work. This time it was the Home Laundry Company in the 200 block south Clinton St. Discovered by a driver at closing time, the fire gutted the entire plant. Six alarms were pulled in rapid succession calling twenty-five companies. At times it threatened to sweep the block, but firemen managed to confine it to the plant. Adjoining dwellings were slightly damaged. An estimated crowd of 10,000 spectators jammed the streets and hindered the movements of firemen.

OTIS SMITH.

National Board Men Go Fishing

The Twenty-Five Year Club of the National Board of Fire Underwriters had its annual deep sea fishing party recently off the New Jersey Coast. Seven active members and the President of the National Board, who is ex-officio an honorary member, attended.

From reports, which seem authentic, few fish were caught. A. C. Hutson, R. C. Dennett and others were reported leaning over the rail most of the time and appeared to be gazing wistfully into the water.

Despite the limited time he spent on fishing, R. C. Dennett won the prize for the largest number of fish and also for the largest individual fish. It is reported he caught two.

The medical director of the club issued a report showing an improvement in the morbidity rate among members. Last year seven attended and four were sick. This year eight attended and four were sick. In other words, there was a reduction in the morbidity ratio from 57.1 per cent to 50 per cent.

Ex-Chief Fortin Has New Job

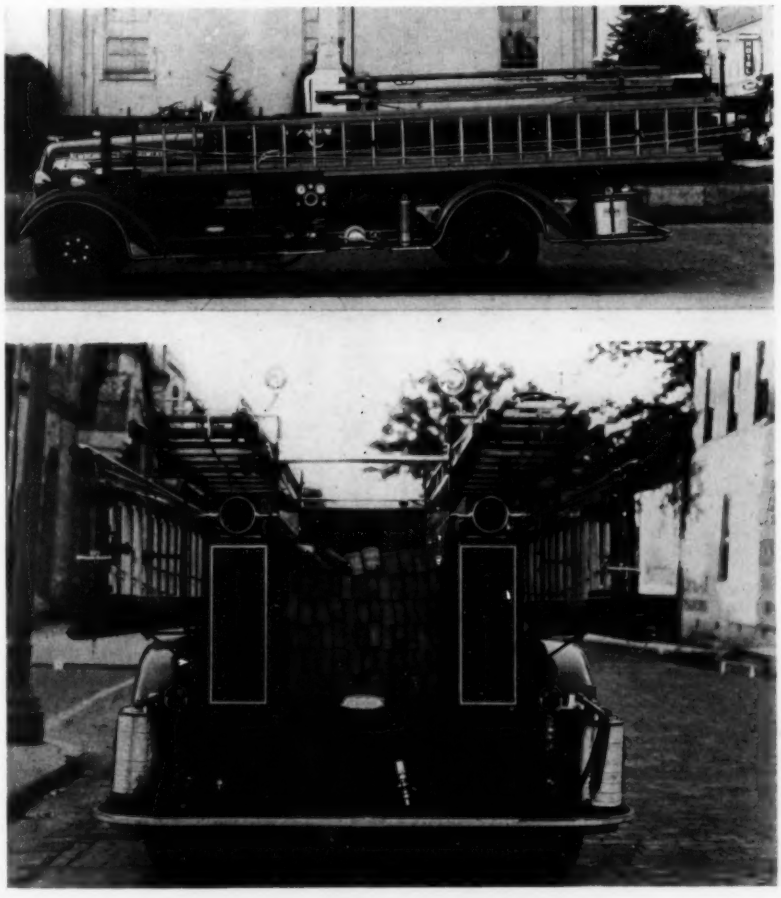
Ex-Chief Charles E. Fortin, Lewiston, Me., has been appointed to the State Unemployment Compensation Commission by Governor Lewis O. Barrows, of Maine.

HARRY BELKNAP.

New Jersey Firemen Meet September 17 and 18

The sixtieth annual convention of the New Jersey State Firemen's Association is to be held at Ball Room of the Atlantic City Auditorium, on Friday and Saturday, September 17 and 18. The first session will be called to order at 2:30 p.m., Friday, and the Saturday sessions will commence at 10 o'clock in the morning.

The headquarters of the Executive Committee will be at the Hotel Dennis, and the committee will meet at 8 o'clock on Thursday evening preceding the convention.



Fire Apparatus Delivered to Newberry, S. C.

Fire apparatus, in which a new type of water tank design is embodied, was delivered by the Seagrave Corporation to Newberry, S. C. The rear view of the machine shows the tank of inverted U-shape which runs the length of the body. This, it is claimed, distributes the water load over the entire chassis. The tank holds 250 gallons. The apparatus carries the usual complement of tools and appliances, and two Indian fire pumps.

O'Hearn Addresses Maritime Chiefs

Chief J. W. O'Hearn, Watertown, Mass., was one of the speakers at the annual convention of the Maritime Fire Chiefs' Association held at Charlottetown, Canada. Chief O'Hearn is New England Director of the International Association of Fire Chiefs, and has been Secretary-Treasurer of the New England Association of Fire Chiefs since the association was formed.

Chief J. W. O'Hearn

He spoke on "Fire Prevention Education in the Public Schools." Teaching fire prevention in the schools proved to be most profitable as whatever message is given to the children is taken home to the parents. Those engaged in the work must have a love for children, and must be able to express themselves in accordance with the age group of the audiences.

Chief O'Hearn advised the speakers to always appear well groomed, in uniform before the children, as that makes a lasting impression. Children are hero worshippers and the fireman to them is a hero. Don't try to bluff. Tell them of the various dangers in the homes, how insurance is collected and paid out, and also how to turn in a fire alarm.

Another speaker from the states was Percy Bugbee, Assistant Secretary, National Fire Protective Association, Boston.

Both of these speakers were presented with blankets by the association as tokens of appreciation for their talks.

A resolution was presented protesting against the use of wooden shingles for roof coverings as many fires developed in the Maritime Provinces from that cause. It requested the Fire Marshals of the three Maritime Provinces to take action to outlaw such shingles.

G. A. Vanderwoort, Superintendent, New Brunswick Electric Power Commission, spoke regarding the right and wrong methods of making electrical installations.

The new officers of the association are Chief R. W. Peck, Kentville, N. S., President; Chief Fred Bateman, Dalhousie, N. B., First Vice-President; Chief G. C. Cann, Yarmouth, N. S., Second Vice-President; Chief Angus McEachern, Charlottetown, Third Vice-President.

The 1938 convention will be held in Glace Bay, July 12 and 13.

Against Fireworks in Illinois

A resolution protesting against the sale of fireworks in Indiana was presented at the eleventh annual meeting of the Indiana Fire Chiefs' Association held at Michigan City, Ind., July 21 and 22.

The resolution stated, "That the Indiana Fire Chiefs' Association go on record as sponsoring legislation to abandon the use of all fire works except under expert care and supervision."

At the convention Sherman Coultis, Illinois State Fire Marshal, told of smashing arson rings. Many other talks were given, including:

"Inflammable Liquids," by A. J. Harkness, New York City.

"Fire Alarms," by W. J. Riedel, American District Telegraph, New York City.

"The Benefits of Organization," by John B. Redmond, Chicago Battalion Chief and Vice-President of the International Association of Fire Fighters.

Talks were also given by Carl Stuep, Indianapolis Inspection Bureau; John O'Brien, ex-Chief, Indianapolis; Chief I. C. Bauman, Michigan City; Clem Smith, State Fire Marshal, and Lt. Gov. Schricker.

Frank Clem, Anderson, was elected President; Chief Albert Rowe, Anderson, First Vice-President; Jack Gammon, Kokomo, Second Vice-President; John Stalhut, Ft. Wayne, Treasurer, and Archie McCabe, Muncie, Secretary. The 1938 convention will be held at Kokomo.

Saginaw to Erect Fire House

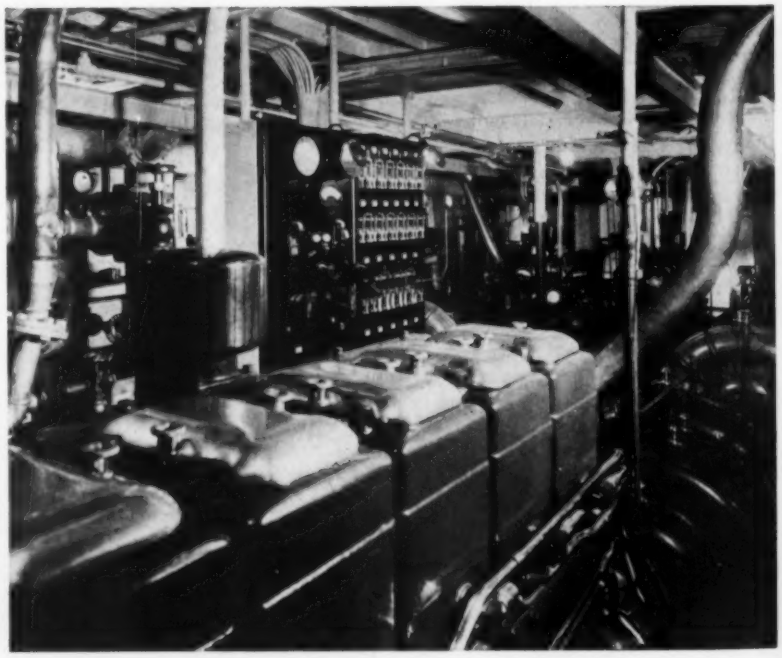
Construction will start in August on a $95,000 fire station for Saginaw, Mich. The house will be built of reinforced concrete. It is expected that the building will be roofed over by the time cold weather arrives.

Sparks Club Presents Ellis with Traveling Bag

The Metropolitan Sparks Club, of Boston, held its annual outing on July 22 at which the members gave its President, Benjamin M. Ellis, a gift of a traveling bag, just prior to his departure on a vacation trip to the Canadian Northwest and Alaska.

He will stop at Winnipeg, Man.; Vancouver B. C.; Edmonton, Alta.; Skagway, Alaska, and on his return at Seattle, Portland, San Francisco, Los Angeles, Grand Canyon, Houston, San Antonio, New Orleans and Memphis. He expects to spend about four weeks on this trip.

Before leaving Mr. Ellis received letters of introduction from Chief Samuel Pope, Boston Fire Department and Chief Allen, Brookline Fire Department, to some of the Chiefs of the cities mentioned.



An Engine Room View of One of the World's Largest Fireboats

This is an engine room view of the Fred H. Busse, the fireboat recently placed in service by the Chicago Fire Department. In the immediate foreground is a 250 h.p. Cummins diesel, which is coupled to a 2,500 g.p.m., fire pump. There is an identical unit to the left, out of the camera's range. Toward the stern and in the far background are three more 250 h.p. Cummins diesels, two to drive both propellers and pumps, and the third or middle one for the propeller only. Three-inch monitors on the deck can discharge a total of 10,000 g.p.m. A tower, which can be lowered when going under bridges, has a 3-inch nozzle that can discharge 4,600 g.p.m. A separate diesel drives a 30 kw. generator for electrical needs. When going to a fire, there are 750 h.p., available for propulsion, and at a fire there are 1,000 h.p., for pumping with 250 h.p. still available for maneuvering the ship.

STERLING GENERAL ALARM **SIREN**

The Sterling Vertical Siren gives the Volunteer Fire Department a siren combining every important feature a fire signal should have, namely:

1. Powerful and distinctive tone. 2. 100% weather-proof protection.

3. BALL BEARING MOTOR CAPABLE OF CARRYING 100% OVERLOAD.

4. Rigid, durable and unit construction. 5. Perfectly dynamically balanced rotor of aluminum. 6. Fast pickup—long roll. 7. Outside casing rustproof Armco Iron, 4 coats Red Duco.

Write for descriptive folder.

Sterling Siren Fire Alarm Co., Inc.
ROCHESTER, N. Y.

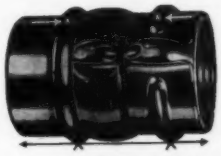
WATEROUS FIRE PUMPS

CENTRIFUGAL - ROTARY

Waterous Dependable
ESTABLISHED 1886

WATEROUS COMPANY - ST. PAUL

This is the new LIGHT WEIGHT BI-LATERAL FIRE HOSE



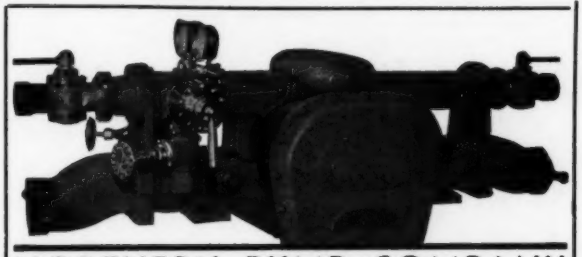
This hose will stand 900 pounds pressure and weighs but 45 pounds to the section uncoupled.

Here's the new **DROP-FORGED** rocker lug coupling (not cast bronze), with the swivel-protecting feature.

This coupling will stand several expansions and can be used over and over again, saving your city at least 20c to 30c per foot on future hose purchases.

When in the market, let us show you that we can give you the best service obtainable for the least money.

BI-LATERAL FIRE HOSE COMPANY
20 N. Wacker Drive Chicago, Illinois



NORTHERN PUMP COMPANY
ESTABLISHED 1907
MINNEAPOLIS, MINN.

HEWITT-GUTTA PERCHA FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"

CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

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COMPLETE INFORMATION UPON REQUEST

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THE AMERICAN RUBBER MANUFACTURING CO.
OAKLAND, CALIFORNIA
Dealers in All Parts of the Country

THE modern pumping engine has many advantages, including better and more powerful motors—better transmissions—better axles—four-wheel brakes—better engineering and, finally, better pumps—far better if it carries a Hale pump.

HALE FIRE PUMP CO., Inc.
CONSHOHOCKEN, PA.

CAIRNS LOW HEAD—CUSHION LINED **HELMET**

COMFORTABLE AS YOUR OLD FELT HAT; WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

DESIGN - - MATERIALS - - CONSTRUCTION
ALL PROVED RIGHT BY YEARS OF ACTUAL USE

Ask for Catalog 229

CAIRNS & BROTHER
444 LAFAYETTE STREET - Established 1836 - NEW YORK

WITH FREE FLOW CONTROL

CLARK
DUPLEX
INHALATOR

The ONLY Automatic Inhalator!

Approved by
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PHYSICIANS OXYGEN AND HOSPITAL SUPPLY CO.
1390 EASTERN PARKWAY
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MANUFACTURERS

WHAT FIREMEN'S COAT

Is Made of Vanitex, the soft, flexible, long wearing, waterproof Material? Has the Famous Safety Snap that can be fastened and unfastened with one hand in a jiffy?

Was worn by the Firemen at Chicago's "Century of Progress"?

THE ANSWER IS

MIDWESTERN

Send for our free illustrated catalog showing complete line of our rubber and canvas garments. Satisfaction guaranteed.

Midwestern Manufacturing Co.
Mackinaw, Ill.

LIGHT WEIGHT UNITS

ELECTRIC LIGHTS FOR NITE FIRE FIGHTING

ONAN PORTABLE ELECTRIC PLANTS are 4-cycle, 110-volt units furnishing ALTERNATING or DIRECT CURRENT. Will OPERATE HIGH POWERED ELECTRIC FLOODLIGHTS and SEARCHLIGHTS, bringing the SAFETY of GOOD LIGHT to NITE FIRE FIGHTING.

HAND PORTABLE MODELS

Can be attached on running board or hung under ladders. Easily carried anywhere. Always ready to run. Sizes 350 to 10,000 watts, priced $110 and up. Write for details.

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EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the Facts

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Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

"Seize an Opportunity When it is Offered"

FIRE EQUIPMENT

DEALERS WANTED

THE equipment buying wave now sweeping the fire department field is bringing with it grand opportunities for live dealers. Manufacturers of everything from brass buttons to pumpers are eagerly seeking new sales agents and many have asked us to help them find good men.

TO assist in making it easier all around, we have decided to maintain a registry of fire equipment dealers who are interested in selling new lines, sales representatives who are looking for new connections, and any individuals who are planning to take up sales work in this field.

IF you'd like us to put you on this list, just let us have your name and address, and a few facts about your experience, etc. Also mention the type products you now handle or want to handle. Then when anything of interest to you turns up we'll gladly let you know.
Let's hear from you!

LIST DEPARTMENT
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24 W. 40th Street
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"Small Opportunities Are Often the Beginning of Great Enterprises"

Stamford, Conn., Has Regional School

A regional training school for volunteer firemen is being conducted at the Central Fire Station, Stamford, Conn., the course extending through the summer to early fall. It is under the auspices of the Stamford Fire Department, the State Board of Education and the Fire Chiefs' Club of Connecticut. Captain F. J. Fox, Engine Co. No. 2, Stamford, is in charge of the school. Twenty officers and privates of the Fire Departments of Belltown, Darian, Glenbrook, Long Ridge, Noroton, Noroton Heights, Springdale, Turn-of-River and Westport are attending the school.

Chief Fox is a graduate of the New York Fire School of Instruction and the New York Fire College. He also attended the Delehanty Civil Service Institute, and received diplomas from these institutions.

The closing exercises of the school will take place on September 11, at 2:30 p.m.

New Haven Ladder Truck Wrecked

Following one of the most tragic mishaps in the history of the New Haven, Conn., Fire Department, Acting Captain James McHugh and three other members of Truck No. 4 narrowly escaped death on July 17, when the apparatus, enroute to an alarm of fire, from Box 615, crashed into a tree and overturned. Acting Captain McHugh is a patient at Grace Hospital, New Haven, suffering from a fractured skull and internal injuries.

Chief Lawrence E. Reif held a dislodged tiller-wheel pin as the key to cause of the spectacular accident the 75-foot aerial truck, which came after the heavy apparatus had careened wildly down the thoroughfare between Dickerman and Goffe Streets.

Ladderman Richard Jones was operating the tiller wheel and Ladderman Robert O'Brien was driving when the apparatus suddenly got out of control. They and two other members of the company were hurled through the air and thrown heavily to the ground as the apparatus, defying frantic efforts, slewed to the right, struck the tree and then turned over on its right side.

Chief Reif is of the opinion that it will be necessary to ask for an appropriation for a new ladder truck as the main ladder mechanism was badly damaged and its frame badly bent. New equipment will cost approximately $25,000.

THOMAS F. MAGNER.

Blast Destroys 230 Cars

An explosion of gasoline, believed to have been caused by a workman's torch, started a fire in the automobile warehouses of Frank Crook, Inc., Valley Falls, R. I., and destroyed over 230 new and used cars. Three workmen were injured and property valued at $200,000 destroyed.

Within five minutes after the department had responded with two companies in command of Chief John A. Savage, the entire south end of the two-story wood frame and corrugated steel structure, was in flames. Outside aid was called and Chief Frank Callahan responded with three pieces of apparatus from Central Falls, and Chief Taupier, Pawtucket came with two pumpers and a hose car. Aid was also sent by Fairlawn-Lincoln, Saylesville, Cumberland Hill, Attleboro and Limerock.

There were periodic explosions of gasoline in the tanks of the automobiles. Sheet metal falling from the roof caused slight injury to some of the firemen.

Frank Charlesworth, State Fire Marshal, was at the scene.

Only a change in the direction of the wind, saved a number of homes near the burning building. Volunteer workers rushed about with pails of water to extinguish burning embers.

The fire was the worst in the history of Valley Falls.

Firemen's Day a Success

Between twenty and twenty-five thousand people attended Fire Fighters' Day at the annual Marion County Soldiers' and Sailors Reunion at Salem, Ill., on July 29.

The gathering was called to order by Chief Albert Herring, President of the Egyptian Fire Fighters' Association.

The speakers included Hon. Louie L. Lewis, Speaker, Illinois House of Representatives; Chief J. J. O'Boyle, St. Louis; Michael J. Corrigan, Chief Fire Marshal, Chicago; Prof. L. H. Provine, Director Fire College, Urbana, and Simon Kellerman, 3rd, Attorney, Illinois Firemen's Association.

Two Views of the Warehouse Fire

Upper, three hours after the fire had started in the warehouse. Lower, debris which covered sixty-five new automobiles. Many expensive models of cars had just been received prior to the blaze.

FALSE ALARMS

—Drawing by "Art" Espey

"And so this, Henry, is your son? Well! Well!"

STUCK EITHER WAY

Because he had been losing weight and appeared to be in a general run down condition, the Captain advised him to take time off to see the department physician. After the examination, the doctor told the patient that he suffered from diabetes.

"I can't have it," he protested. "I am only forty-one years old."

"Age has nothing to do with it," explained the physician. "You have diabetes."

Stunned by the news, the fireman took a street car, muttering to himself:

"To think I got diabetes at 41 . . . diabetes at 41. . . ."

He kept saying this over and over again, until the man sitting next to him protested:

"What are you kicking about? I got Amalgamated Railway at 68."

They laughed when she came on the stage in her glove-tight shorts, but when she bent over, they split.

JUST A TRICK

It was Firemen's Day at the state fair. Many of the farmers came down with their youngsters to give the young fellows a treat. Fire apparatus always holds a great attraction for the boys.

A farmer and his little boy were in the grand stand watching the various fire companies parade by. In the march was a gaudily attired band. He recognized all the instruments in the band but the slide trombone.

He watched the player for some time, then, turning to his son, he remarked:

"Don't let on that you're watching him. There's a trick to it. He ain't really swallerin' it."

The trick of making some girls beautiful is done with mirrors.

CHANGE OF PLACE

He was attractive. He was married, but married or single, he still was pleasing to the women. At the station, he was jokingly called, "Romeo."

He was granted the morning off so that he could be near his wife just before she was to undergo an operation. The doctor who tried to cheer him up, said:

"Now, don't worry about your wife. You'll have a different woman when she gets back from the hospital."

He thought for a moment and then asked:

"But what if she finds out, doctor?"

As the chorus girl remarked, "Husbands are easy to catch—lots easier than bachelors."

CONSCIENTIOUS

A spread was being prepared for the fire company and several of the ladies auxiliary who were working in the kitchen started to discuss their respective husbands.

Said one, "My husband gets up in time for health exercises on the radio every morning."

"Looking at your husband, that's quite a surprise. I didn't know he took 'em."

"He doesn't, but the girl in the apartment across the court does."

The differences between a popular girl and an unpopular one are respectively, "Yes" and "No."

NEED FOR PRAYER

The annual inspection of the department was a very important day to the volunteers and very much of a holiday for the community. It was an all day affair with exercises, speeches, dancing, etc.

A caustic father took his little son with him to attend the exercises. The lad was very much interested in what was going.

He asked his father, in a low tone:

"Poppa, does the Chaplain pray for the firemen?"

"No, son," answered the father. "He looks at the volunteers and prays for the community."

A committee of five usually consists of the man who does the work, three others who pat him on the back, and one to bring in a minority report.

SUITABLE PLACE

An old Swede was the general man of work about the department headquarters. He swept, he scrubbed, he tended to the outside grounds work, and had no difficulty in putting in a full day.

An epidemic of smallpox hit the community. An order went out for all city employees to be vaccinated.

The doctor called at the station, vaccinated the men but when it came time for the Swede, he was confronted with the problem of where to make the injection.

"If he was vaccinated in the arm," the Captain explained, "it would interfere with the sweeping and similar work."

"How about the leg?" volunteered the doctor.

"That's not so good either. It will stop his work on the grounds and he won't be able to scrub floors."

The physician meditated a moment and turning to the one concerned, said:

"I don't know where to vaccinate you. Have you any suggestions?"

"Vell," he volunteered, "Ay don't get mooch time to sit down."

Another fellow who lives off the fat of the land is the girdle manufacturer.

—Drawing by "Art" Espey

"Probably the question has to do with heat effects?"

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. . . and so with fire fighting.

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4 A naturally smooth interior free from corrugations—hence greater pressure where you need it . . . at the nozzle.

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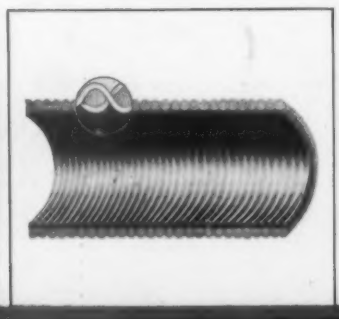
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